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UNIVERSITY OF ALBERTA

Transforming Education: A Paradigm Shift Toward Collaborative Education

by

Heather Ryan ©

A Thesis Submitted to the Faculty Of Graduate Studies and Research In Partial Fulfillment for the Degree of Doctor of Philosophy.

Department of Educational Psychology

Edmonton, Alberta

Spring, 1995

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DATE: December 19, 1994

It is important for us all to know what the value is of these models of collaboration. We don't need to restrict our examinations to what seems financially possible in these economical conditions. The interactions with people may be influenced by the conditions of the times. It is encumbent on you to let the reader know the environments of the classroom, the school, the system and the mood in society in which your research is occurring. It is entirely appropriate for you to feel that whatever occurs within a context you must describe.

Myer Horowitz, March 1, 1994.

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Dedication

For all those who shared their time and trust with me to make this dissertation possible.

Abstract

This dissertation describes the relationships between individuals who have recently adopted a collaborative approach to education as experienced in three urban schools. Chronicled are interactions between students and teachers in science class in an elementary, junior high, and senior high school: roles and perceptions of school staff; and selected parents' knowledge and impressions of the collaboration. The sex and training of the teacher, perceived abilities/attitudes of students, and the context of the school are reported.

Interactions within three different age groups of students were compared. These demonstrate how collaboration has led to organizational change and influenced perception of both achievement and responsibility. Elementary and high school parents were knowledgeable and unanimously supportive of the school. Adult collaboration and partnerships with business, professionals and a hospital enriched the high school program. While no partnerships existed in the elementary school, many parents were active in helping some staff to expand teamwork.

In the junior high, most involved parents championed parental responsibility and a thematic curriculum integrating science, literacy, computer technology, maths and social studies delivered by one teacher in a multi-graded classroom. Learning as "fixed achievement, variable time" was school creed. Participants attributed lack of community support to inadequate information from the school and Board. Staff felt instructional flexibility was limited by pressure from some parents. Staff stress and perceived lack of support were factors in high staff attrition and declining enrolment.

Benefits to participants of shared responsibility included: greater classroom experimentation, teaching success, increased commitment to self-improvement, a positive learning experience, recognition/reward of effort and achievement, and development of interpersonal skills. Factors critical to collaboration were a) access to accurate information; b) shared responsibility by administration and parents; c) development of advocates; d) meaningful roles for students/adults to enrich curriculum, develop pride and leadership abilities; and e) school' provision for professional growth.

TABLE OF CONTENTS

CHAPTER 1 Introduction 1

Definition of Collaboration? 1

Collaborative Education: Toward a Conceptual Framework . 5

CHAPTER 2 - Review of the Literature 7

Climate in Alberta Schools 7

Job Security 8

Current Evaluations Support Fears 10

Inadequate Training and Resources 11

Teacher Stress 12

Blame 12

Dominant educational philosophy 14

Further Indicators of Systemic Dis-Ease in Alberta Schools16

Instruction and Psycho-social Development 18

Why do we need to change schools? 21

A Road Map For Change? 26

Hurdles To Overcome in Assuming a Collaborative Model . 28

Teacher Training- An Essential Part of the
Transformation 31

Making Collaborative Education Work 34

Collaboration Succeeds in Manitoba' Special Education 35

And What If We Don't Make the Necessary Changes? . . . 36

CHAPTER 3 - Nature of the Study 38

Philosophy and assumptions 38

Aims and Limitations 39

Gaining Access . . . 42
Research Design . . . 43
Research Questions . . . 48
Presentation and Validity . . . 49
Analysis . . . 50

Building Partnerships in a Context of Economic and Social Change . . . 53

CHAPTER 4 - The Friendly Giant: One Student at a Time. . . . 59
Sharing the Experience . . . 60
What Does Collaboration Entail? . . . 63
Someone To Turn To . . . 64
Building Consensus . . . 65
Building a Positive Image . . . 67
Communication Between Home and School: . . . 68
Keeping the Faith: Hope in the Face of Education Cuts . . . 70
Opportunities for Personal and Professional Growth . . . 72
Work Ethic and Expectations . . . 73
Teamwork Within the Classroom . . . 75
Perceptions of Students . . . 80
Insights and Suggestions from Parents . . . 82
Collaborative Approaches To Integration of Special Needs Students . . . 87
The Impact of Cutbacks on Special Needs students? . . . 92
Do the Ends Justify the Means? . . . 93

Chapter 5 - The Teddy Bear School 99

Sharing the Experience 100

Collaboration in the Classroom 102

Student Progress 106

Sharing the Power: Reality or Myth? 108

Expectations Convey Responsibilities 110

What If Parents Resist Collaboration In Education? . . 111

Family Insecurity and Impact at School 114

Integration of Special Needs Students 115

Sharing Responsibility 116

An Outstretched Hand: Communication with the Home . . 119

Insights and Suggestions from Parents 122

Opportunities for Development 125

Chapter 6 - The Star School Enterprise 129

What does collaboration entail? 129

Sharing the Experience 134

Teamwork in the classroom 136

Inclusion of Special Needs Students 142

Parental Involvement 146

Insights and Suggestions from Parents 149

Student Achievement 153

Work ethic and expectations: Sharing the Vision? . . . 155

The Importance of Building a Positive Image 157

Professional Growth and Program Change 160

Falling Stars 161

Chapter 7 - Lessons Learned 164

Factors Essential To Collaboration 165

Different Origins But Common Goals? 168
Evolution of the Models 169
Advice from the Masters 169
Unanswered Questions 172
Future Frustration Or A Time of Opportunity? 174
A Tribute to Vygotsky 176
REFERENCES 178

Appendix A - Letter of Introduction 187

Appendix B - Permission Letters to Parents and Students 189
Appendix C - Classroom Verbal Behaviour Inventory . 193

APPENDIX D - COLLABORATIVE EDUCATION INTERVIEW #1 . 194

APPENDIX E - Interview # 2 Questions 195

Appendix F - Students Attempting/Succeeding on Diploma Exams 196

LIST OF TABLES

TABLE 1: CLASSROOM VERBAL BEHAVIOUR INVENTORY - FRIENDLY GIANT. 77

TABLE 2: THE FRIENDLY GIANT: SCIENCE 10 AP ACHIEVEMENT . . . 94

TABLE 3: VERBAL BEHAVIOUR INVENTORY - Grade one/two Teddy Bear. 105

TABLE 4: TEDDY BEAR SCHOOL - STUDENT ACHIEVEMENT. 107

TABLE 5: CLASSROOM VERBAL BEHAVIOUR INVENTORY - STAR SCHOOL. 140

TABLE 6: STAR SCHOOL ENTERPRISE - GREEN TEAM SCIENCE. 154

LIST OF FIGURES

Figure 1 - Collaborative school as community: Friendly Giant 54

Figure 2 - Collaborative school as community: Teddy Bear School 55

Figure 3 - Collaborative school as community: Star School 56

Figure 4 - Support Systems 65

CHAPTER 1

Introduction

This dissertation describes the rationale and design for studying the development of a collaborative approach to education within three schools in Alberta. The impact of this innovation upon the quality of education witnessed in the classroom and upon the participants within each school community are presented through the perceptions of the participants and the researcher. Student achievement, attendence and involvement in classroom learning are provided in the form of documents, verbal behaviour inventories and from interviews with students, parents and school staff. Much of my research is motivated by a personal awareness of the experience of teachers and students in Alberta schools. This experience was based on my 18 years of teaching high school science and two years of observations in other teachers' classrooms as Faculty Consultant to student teachers and the research for my Master's thesis. This knowledge, supported by a vast array of research on language and cognition, cooperative learning outcomes, and multiple approaches to teaching/problem solving as beneficial to both students and teachers provides awareness of and frustration at the climate of fear found in many Alberta schools today. The collaboration of school staff, parents, and community in developing rich and meaningful programs to prepare students for the rapidly changing workplace and society of the 21st century offers a promising approach to restructuring education and evolving toward a more dynamic learning environment.

Definition of Collaboration?

This dissertation will present the experiences of those working to develop a community of caring adults that combines the pedagogical expertise of educators with the knowledge and skills of community members. The philosophy common to both the research literature and the three collaborative schools was that, in growing beyond a collection of individuals with expertise in distinct areas to a community that shares many fundamental beliefs about education as well as integrating their expertise, students will be informed as to how curriculum applies to life in business, professions, and relationships.

While a definition of what collaborative education is might be instructive, standard definition is unavailable in the literature. Idol (1991) describes the collaborative school as "a composite of beliefs and practices... easier to describe than to define" (p.72). A complete review of the literature is presented in Chapter 2.

This dissertation proceeds from a view of school collaboration as an evolving process which draws adults and students into a school community to develop curricular and extracurricular activities which engage and enrich the lives of the participants. My intent was to allow the members of this evolving community to characterize their school, not to compare their efforts to some objective standard. Based on the dearth of practical studies of collaborative education, as will be discussed in Chapter 2, there is a need for research to chronicle the strategies employed by teachers and the school community to involve students, parents and community in everyday school functions.

The climate in three schools working in partnerships with home and community will be contrasted to the climate of many schools in Alberta today, as reported by research and media. Interpretation of why the climate in many Alberta classrooms is inherently competitive and unhealthy for many of the participants is examined. Research describing pressures to transform the learning environment and suggesting the need for a collaborative approach to education is reviewed. Both the advantages described as accruing from such an approach and the hurdles schools face in adopting it are considered.

Research has uncovered many benefits of parental involvement in their childrens' schooling (Friesen, 1993), including improved academic achievement, reduced absenteeism and attrition, and increased involvement in curriculum by students and parents. Recently there has been increasing interest in parent participation in some aspects of school function by forward-thinking educators. Historically such involvement has been limited to volunteering in classrooms, materials preparation, and supervision at the elementary level with decreasing involvement as the children move into junior high and high school (Carnegie Commission, 1989). Involvement of a small number of parents in parent advisory groups has a long history in Alberta education, but many of these groups lack any meaningful authority in school function.

This dissertation questioned whether differences in strategies, commitment and the perceived impact of a collaborative model within different schools/classrooms related to the age or socio-cultural context of that group. I employed an ethnographic approach to investigate the development of a collaborative community within an elementary, junior high and high school across one complete school year. Interviews were conducted early in the school year and near year's end with parents, school staff (including front office staff, counsellors, teachers and administrators), community members involved in the schools, and with students. These interviews, in conjunction with classroom observations and my participation in many school functions, provided a detailed description of the collaborative process and its impact on individuals and the school community.

Language interactions in the science classroom and between the teachers, counsellors and other adults identified as stakeholders were carefully recorded in field notes and on videotape. Both parents who are visible and active in the school and those parents who appear to have no involvement were interviewed. Both the active and inactive group of parents were identified based on their involvement in school activities, school related parent groups, or contact with the school regarding their children's progress or homework.

Within a science classroom, selected in cooperation with the school staff in each of the three settings, the researcher videotaped/interpreted language used by teachers and students to get some sense of: 1) how understandings of events were constructed by the participants and 2) how these understandings were enframed by the culture of the school and community. Demographic factors included sex, age, and training of the teacher and students, perceived abilities and attitudes of students, the context of the classroom, school, and community.

Description of the interactions of teacher with students and of students sought to determine if collaboration in the classroom promoted growth in self-concept and achievement. The observer's Verbal Behaviour Inventory, adapted from Kelly (1955), sampled the language used to discover common strategies and routines that impact in a meaningful way on the nature of the discourse, relationships and perceived learning. The reflective conversation with each of the adult respondents toward the end of the research focused on their perceptions of the impact of the collaborative efforts within their school and on their suggestions.

Collaborative Education: Toward a Conceptual Framework.

To understand how collaborative education differs from much of modern education, it is necessary to develop a conceptual framework. Vygotsky, the Soviet teacher turned psychologist who wrote in the 1920's and 1930's, developed a sociocultural perspective to human mental functioning, as essentially dependent on the mastery and internalization of social processes (Wertsch & Tulviste, 1992; Bain & Yu, 1994). While this disertation does not adopt Vygotsky's socio-historical method, it is nonetheless informed by a number of Vygotskian insights.

Vygotsky's perspective on education and development as being interactive is a powerful tool enabling us to understand ourselves and the ways of the world. Because the nature of collaborative education is interactive, Vygotsky's framework is a valuable tool to guide this inquiry. He described the role of a developmental approach saying:

> To encompass in research the process of a given thing's development in all its phases and changes - from birth to death - fundamentally means to discover its nature..., its essence, for "it is only in movement that a body shows what it is." Thus, the historical [that is, in the broadest sense of "history"] study of behaviour is not an auxiliary aspect of theoretical study, but rather forms its very base (Vygotsky, 1978, pp.64-65).

The details of the method will be further addressed in Chapter 3.

Findings inform the reader as to how a shift in approach to education may lead to organizational change and influence perception of educational outcomes and individual responsibility within each setting. The situation in the schools together with the perceptions of participants is detailed in Chapters 4, 5, and 6: one for each school. Chapter 7 situates the results within the framework and presents the implications of this research.

CHAPTER 2

REVIEW OF THE LITERATURE

The Climate in Alberta Schools

Rising fear of lack of international competitiveness in the face of severe economic recession has produced tremendous pressures on teachers for improved test results and other accountability measures (Morison, 1992). The following are some factors linked to this climate of fear.

- job security
- apprehension in the classroom
- expanding evaluation
- inadequacy of training and resources
- teacher stress
- blame
- dominant educational philosophy

Although some might consider these behavioural factors related to the right wing ideology dominating assessment of satisfaction with schools in Alberta, these criteria constitute meaningful variables discussed daily by professional educators and around the coffee table in homes and at community gatherings.

Job Security

Job security has become tenuous as beginning teachers with less than three years of experience find their positions terminated in many jurisdictions. Experienced teachers considering requesting sabbaticals for travel, or continuing University study, have chosen not to pursue their plans for fear of endangering their positions.

David Flower, Coordinator for Communication for the Alberta Teachers' Association (ATA), disclosed their budgeting for the upcoming year to be based on 1,500 fewer primary and secondary teaching positions as of September (personal communication, June 13, 1994). An Alberta Advanced Education report, *Labor Force Statistics*, released May 19, 1994 discloses that as of May, 1993 there were 56,800 teaching positions (covering a complete spectrum of vocational, primary and secondary, community colleges, arts, post secondary and training positions) compared to 50,900 in May, 1994. Teachers in both the public and separate systems have accepted a five percent rollback in salaries and benefits; two percent in April and three percent in September.

Initially, Boards proposed this rollback as a device to protect the teaching positions of those teachers with less than three years experience. In actuality, the ATA claims rollbacks protected very few teachers. Job security is threatened with government support for the Boards' negotiating positions. Job guarantees are only for one year and the relationship between Boards as employer and teachers as employees is rapidly deteriorating.

David Flower, ATA Coordinator for Communication, suggested on June 13, 1994 that the bargaining technique of threatening mass layoffs has had very negative and enduring psychological effects on teachers, parents, and students as this school year draws to a close. The emotional upheaval and mental anguish extends beyond the schools into the home life of family and community.

The mood is very uncertain in the classroom. Parents and students wonder whether favourite teachers and a broad range of subjects will be available for them next year. Parents and educators alike are alarmed by the threat of cuts to program diversity and range. The *ATA News* reported that with more than 100,000 Alberta children living in poverty, it seems disastrous for the government to propose a cut in funding to the Early Childhood Services (ECS) instruction grant by 50 percent with a 5 percent reduction in the program grant and elimination of the ECS transportation grant (January 25, 1994). This means the local ABC Head Start program may also lose one quarter of its budget. Compensatory education is intended to provide additional services to children at risk due to poverty, giving them access to social skills and communication skills essential to success in primary grades.

Anxiety about the future of their education and increasing emphasis on high achievement interferes with students forming cognitively stimulating relationships with each other or with their teachers, as their ability rankings determine their eligibility for post secondary education. Both teachers and students experience fear of condemnation, fear of harrassment, and fear of retribution.

Current Evaluations Support Fears

Widespread public discontent presented in and rallied by the media questions the validity of the Alberta Department of Education's 1992 evaluation of the present state of educational achievement within this province as 'fair to excellent'. Education in Alberta has recently received a number of contradictory evaluations on process and adequacy of student product by agencies with very different vested interests. A report called the *International Comparisons in Education (1992)*, sponsored by Alberta Education and the Alberta Chamber of Resources, rated our program, especially in the area of maths and science, as inadequate.

International Comparisons in Education (1992) contrasted student outcomes in Hungary, West Germany, Japan, and Alberta, and was critical of both Alberta's test results and the lack of cultural emphasis on the importance of education. The report concludes that, contrary to what is done in Alberta, these countries put more emphasis on earlier and more detailed science curriculum, that there is a better fit of graduates to the job market through liaisons with potential employers, and that their teachers have more time to prepare lessons.

International Comparisons in Education (1992) describes Alberta social values as a hedonistic pursuit of self-discovery, self-esteem, and sensual indulgence, and as partially responsible for the poor test results. The educational community is also judged as having failed to address the education of immigrants and native Albertans in a manner which provides these students democratic access to Canadian society. Although these claims resemble mud-slinging, they expose the tone of public reflections on the performance of Alberta schools. The report is a reflection of the traditional competitive paradigm, failing however to consider the effect of increased competitive pressures, increased testing, and resulting reductionism in what is emphasized as worthwhile knowledge on children themselves.

There is very little evidence that increasing the consequences of test performance actually motivates students to work harder and achieve higher grades, or other administrative measures of learning (Morison, 1992). Paris, Lawton, Turner, and Roth's (1991) research in grades two-eleven questions the validity of tests of either high or low consequences to accurately estimate students' knowledge or process skills. Madaus and Kellaghan (1991) reviewing evidence from other industrialized countries, suggest that "these competitive pressures may be forcing low-achieving students to leave school early to avoid taking these final exams. Thus they enter the work force without important credentials for career advancement" (cited in Morison, 1992; p.19). Does a similar phenomenon discourage low-achieving students in Alberta, contributing to the sadly high 30% drop-out rate in high school (Millar, 1992)?

Inadequate Training and Resources

The ATA claimed insufficient training or resources were provided to teachers in response to this critical report. ATA representative, Gordon Thomas, suggested to the press (April, 1992) that curriculum is in a state of change in Alberta; and that teachers receive inadequate texts and support materials from Alberta Education to implement new curricula. The disparity in the views of diverse stakeholders is clear. Do many teachers face difficulties in meeting and/or agreeing with stated objectives in curriculum guides? The disparity in the positions held by Alberta Education and the ATA indicates lack of cooperation and shared goals.

Teacher Stress

The extent of teacher stress, experienced in overloaded classes, with changing curriculum, multi-problem students, parents who seek increased participation, and a poor professional image, is clearly documented in Jevne and Zingle's (1991), *Striving for Health: Living with Broken Dreams,* a study of teacher burnout within Alberta. Jevne and Zingle (1991) suggest recognition of the key role teachers play in creating healthy and satisfying classrooms must be stressed, but the community must assume responsibility as well, in a bottom-up movement for overall change in the practice of education.

Blame

Social emphasis on evaluating and demonstrating accountability for perceived weakness in comparison to scholastic performance in other developed nations contributes to an anxious state for teachers, students and parents. In *Testing in American Schools,* Morison (1992) conclusively demonstrated the current trend toward increasing dependence upon psychometric testing of students at all levels of the American school system to compare their academic achievement and motivations within local, state, and national jurisdictions as well as to assess/influence the international competitiveness of the future workforce.

And in the sad tradition of "whenever the American system sneezes, the Canadian system gets the cold", the Canadian educational establishment is rushing into a similar national assessment program. On February 9, 1993, Mr. Scott Thorkelson, Conservative Member of Parliament for Edmonton Strathcona, raised the question in the House of Commons:

> Mr. Speaker, Canada spends 7.2% of its GDP on education. This is higher than any other industrialized country. We have no way of measuring the effectiveness of our system. Experts in the field have stated that every successful academic system in the world uses rigorous evaluation methods such as national standardized testing. He called for "implementing a program of voluntary national standardized testing of students in Grades Six, Nine, and Twelve, to be called the Canadian Scholastic Achievement Test (CSAT), which would measure students' levels of achievement in core subject areas" (Hansard, February 9, 1993).

The fact that his own government's policies had precipitated such measures intended to increase the accountability of the educational heirarchy, with most of the pressure being felt at the school level, is clarified by the immediate reply to this motion by The Honorable Monique Landry (Secretary of State of Canada in the Mulroney government):

> We are very pleased to see the efforts of the Council of the Ministers of Education to develop a national achievement indicator system. Also Canada is playing a very leading role now in the third international study of maths and sciences with a $2 million grant from EIC" (Hansard Commons Debates, Feb.9, 1993).

The potential for abuse of data from such measures in Alberta can be demonstrated by the growing use of achievement tests, originally intended for sampling purposes but increasingly being used for ranking teachers, schools, and jurisdictions, eg. Diploma examinations. When the ATA advised the Department of Education of a history of abuse of their data by administrators, "the Department claimed no responsibility and suggested that was not the intended use" (Gordon Thomas, ATA interview, Feb.10, 1993).

Morison (1992) illustrates how pressure in the United States aroused by widespread concerns over recent poor results on intra- and international assessments of educational outcomes, permitted expanding 'high stakes testing' without critical assessment or research on impacts, construct validity, and predictive validity of this tool. Does the Alberta school system knowingly choose to ignore this research? This dissertation will address this question as it applies to the three schools studied.

Dominant educational philosophy

Excessive reliance upon rigorous scientific procedures and management principles highly accentuates the impersonal, competitive elements of the educational experience and underplays the interpersonal and cognitive aspects of the teaching and learning experience. Despite extensive, mandatory science education in Alberta, it is disturbing that there has been limited public outcry in response to the Gulf War or to vast destruction that occurs in oilspills, clear cutting of major forests,or depletion of ozone in the Earth's atmosphere. What role has education and academic research played in interpreting experience of crisis and identifying alternative processes? Have they been asking appropriate questions to open peoples' minds to understanding the phenomena?

Science education is the usual vehicle for providing information about technology and the ecosystem to students. In *Reaching for Possibilities in Science Education* (1984), Jacknicke and Rowell describe the 'world of science' being offered through school science as misrepresentative and dominated for decades by rational empiricism, leading to narrow interpretations by teachers and students.

They describe this technical approach to education as 'reconstructed logic', separating the learner from the scientific process. Students are presented with a "fixed body of knowledge related to and derived from 'real' science that young people need to know in order to understand the world in which they live" (p.15). This factual and prescribed presentation is judged by teachers and critics alike to alienate students from the rich history and human drama played out in the lives of scientists.

Although Cree Indians in Northern Ontario are not central to research into Alberta education, as Berry and Bennett (1992) found out, the basic practices in classrooms may defy and defile the learning styles and cultural beliefs of students. Berry and Bennett's (1992) study of conceptions of cognitive competence with the Cree in northern Ontario, clearly points out that the dominant pedagogical style emphasizing de-contextualization and abstraction from nature is in direct opposition to the cognitive values of their own tradition. Negative impacts on the learner's attention and success in acquisition can be expected when you consider that little or no consideration is given to the fit of curriculum to the experience and values of students from other cultural and linguistic communities. Lack of meaningfulness or authenticity is but one of the imperatives for school transformation identified by school reform literature.

Further Indicators of Systemic Dis-Ease in Alberta Schools

Jevne and Zingle (1991) point out that the school environment is not healthy for many teachers. Approximately 600 Alberta teachers are on long term disability with physical or psychological problems related to their work. Many more are identified as 'at-risk'. Jevne and Zingle (1991) identified factors contributing to teacher burnout as being intrinsic to their roles and relationships within the school, not due to inherent personality or psychological factors. They recommend that administrative policies should be altered through professional workshops and a shift in emphasis toward human resource management skills in the graduate training programs currently training students for school administration. Their recommendations focus recognition of the need for more caring and stimulating ways of relating to each other within the dynamic world of the school.

The degree of unrest in the educational community is also indicated by several radical proposals receiving attention in American 'school restructuring' literature. For example, Chubb and Moe (1990) present the concept of a voucher system in education. The idea of a free-market system for schools is based on government education grants given to the student rather than the school, allowing the student considerable choice in the school they attend. One danger of this 'fittest survive' philosophy is that the schools with the poorest resources,(eg. in lower socio-economic areas) could be lost due to fewer toys and tools to attract students.

Another approach offered by Illich (1983) suggests that education does not necessarily have to take place in classrooms. Some alternatives to the historic Canadian institution of school are: the home schooling movement, which has shown growth in Canada (with over 2500 students registered in Alberta in 1992); the school ownership movement, characteristic of Francophone policy in Canada; and private schools motivated to increase effectiveness of learning through involving community resources in educational practice.

It is important, however, to note that this 'alternative' paradigm was based on finding failure with the public schooling system -- not changing it. Many educators have not taken these alternatives seriously and thus they have not diffused throughout the educational community. Its interesting that each of these ideas is now capturing politicians', Department of Education, and media attention in Alberta.

Bamburg and Isaacson (1991) conclude that research from the last 15 years documents ineffective curriculum implementation caused by poor design, especially development by outside experts who failed to involve teacher-implementers in the design or to make it fit their perspectives. Inadequate opportunities for teacher involvement were compounded by inadequate training to implement new curriculum. Thus long-term commitment to the innovations failed to develop within the school. What is needed is not just tinkering with timetabling or other management issues but re-evaluation of what schooling is and needs to be. Recognition of the need for fundamental changes in the school experience have caused this researcher and the school collaborators to turn their attention and efforts toward investigating the collaborative alternative in education.

Instruction and Psycho-social Development

Modern pedagogical inquiry (Cazden, 1983; Vygotsky, 1986; Bain and Yu, 1989) argues that inter/intra-personal communication mediated by language is central to development of the whole individual. For example, Vygotsky (1986) stressed the importance of instruction, noting that language plays a pivotal role as synthesizer of all meaningful human experience. Bain (1975) and Wertsch (1985) note that concepts are formed through language, embedded in the sociocultural environment surrounding the developing child. The Vygotskian perspective describes the role of language-mediated instruction as to lure and support learning: **learning occurs in collaboration with peers and experts who provide a flexible but temporary scaffold for understanding of similar problems, allowing transfer of learning to occur**.

Moll (1990) claims that schooling from this perspective creates social contexts or zones of proximal development for mastery of, and conscious awareness of, the use of cultural tools (speech, literacy, math, and science concepts). These tools provide individual capacity for higher-order intellectual activity.

Cazden (1988) notes that Vygotsky's construct of the 'zone of proximal development' is often linked in current research to the concept of classroom language as scaffold "providing visible and audible support... that allows the novice to take over more and more responsibility for the task at hand" (p. 107). Cazden (1988) describes and illustrates "four cognitive benefits of discourse: discourse as catalyst, as the enactment of complementary roles, as relationship with an audience, and as exploratory talk instead of 'final draft' " (p. 126).

Research with students of wide ranging age and abilities and their collaborators in developing literacy activities, (Dowley McNamee, 1990; McLane, 1990; Moll & Greenberg, 1990; Martin, 1990; and Rueda, 1990) demonstrated that an interactive, collaborative approach does provide an environment conducive to improved communication through both speech and writing, and the centrality of pedagogy to development.

Au (1990) in a case study of the transformation of a novice teacher into an expert teacher, found three of Vygotsky's concepts (the relationship between spontaneous and scientific concepts, the role of speech in thinking, and the development of consciousness), usually used to analyze instruction for children, were equally relevant and useful in understanding changes in adult thinking. This matches my own experience of teaching and learning from adults during 18 years of teaching and in 4 years of Graduate education. This experience supports the value of a cross-age study.

Based on classroom studies, Staab (1991) notes that the relationship between talking and learning centers on the role of student talk in focusing information, clarifying information, and formulating opinions (p.33). Staab's study of classroom talk in twelve randomly selected grade three classrooms and twelve randomly selected grade six classes, found that students talked in front of a large or small group for only 2.2% of the total activity time; student-led discussions, such as role-playing, brainstorming, or cooperative problem-solving, occupied only about 1% of the activity time. It is relevant to the purpose of this research, that during science classes teacher talk used 59% of classtime; students talked formally for 3% of the time and informally for 14%; and students were asked to work quietly and independently for 25% of the time (Staab, 1991, p.42). Staab concludes that "the overall amount of students' oral language in the classroom has not changed significantly in the past 20 years" (p.43). This is evidence of a continuing lack of encouragement for students to talk in classrooms to facilitate their learning.

Moll (1990) claims focus on a collaborative approach to providing an environment conducive to improved communication and to the centrality of pedagogy in school function provides a theory of possibilities; reminding us that educational settings and educational practices such as ability groupings, tracking, and other forms of stratification are social creations - socially constituted, they can be socially changed. Such focus warns us not to underestimate children's and teachers' abilities by analyzing them in isolation, in highly constrained environments, or in less than favorable circumstances.

Why do we need to change schools?

Three domains providing pressure for change are economic, socio-political, and moral. Economic pressure for change arises from the fact that schools are partially responsible for preparing students for a workforce that ensures an economically strong existence. The threat of Japanese economic superiority has created a search for a culprit within the school itself, rather than a recognition that schools are the victims of the economy and related pressures.

Economic recession has also in the opinion of the American educational activist, Seeley (1991) " awakened the...body politic to the shallowness of our commitment to education" (p.36). This desire to uncover reasons for foreign educational systems producing more productive, loyal and flexible workforces can be easily found in Canada by reading the daily newspaper or educational research journals! A social constructivist, Giroux (1985) recognizes the interest in educational reform and focus on technique as a trend in society as a whole:

> Educational reform has been linked to the imperatives of big business. Schools in this perspective are training grounds for different sectors of the workforce; they are seen as providing knowledge and occupational skills that are necessary for expanding both domestic production and foreign investment. This view links schooling to the demands of a technocratic and specialized literacy (p.9).

While educators are blamed for an indifferent, disloyal and poorly motivated body of youth entering jobs, Sartoris (1992) observed that Canadian business has made few contributions to training programs, apprenticeship, or financial support to make jobs more secure. There is no apparent business commitment to develop an employee knowledge base or loyalty related to a specific company, a common practice in certain countries in Europe and Japan. Economic pressure to promote skills that make the country more competitive in a global market, ignores the role of schools to do more than train students to become workers (Jennings, 1987). Many educators believe Alberta students can be better served in terms of their cognitive and social development by curriculum that promotes creativity and ingenuity, rather than the worker-training oriented educational program found in Japan.

The sociopolitical pressure for change in school experience is based on the widespread belief that children have a right to an education that will allow them fuller access to understanding the country's heritage, culture, and democratic processes. The inherent belief is that it is necessary to use education to protect democratic rights. This may not be as dogmatic as first thought, in the face of growing unemployment and changing demographics of the workforce as industries move south to Third World countries to capitalize on cheap labour and escape employee benefit plans in the United States and Canada. Levin (1983) recognized a worrisome trend now producing tremendous constraints and worries for school administrators working with shrinking school-based budgets.

> We don't have to look very far to notice that the current "back to basics" movement coincides with the gradual withdrawal of State resources from public education, as well as from all other social services, in a period of general economic dislocation... (p.13).

Giroux (1985) observed that "schooling represents both a struggle to define meaning and a struggle over power relations" (p.379). He described the transformative role of teachers in improving school climate as critical. Other critical theorists (eg. Idol & West, 1991; Dowley McNamee, 1990; Beyer, 1987; Eisner, 1985) have observed that students can be helped by teachers to develop critical skills which allow them to detect injustice in social institutions and practice; and to develop belief in themselves which enables them to improve quality of life for themselves and others.

In 1977, Alberta's Minister of Education, Jim Dinning, expressed in *Vision for the Nineties* current departmental recognition of the transformative role of education and present need for greater collaboration in meeting that need:

> The plan of action is also intended to heighten public awareness of the importance of education, and to increase the involvement of parents, the business and professional community, and the public in improving education. Education is truly everyone's business. This awareness and involvement can help reinforce public confidence in education as well as provide additional community resources to support student learning. (Dinning letter, 1992)

The moral/ethical pressure for change is the realization by the public and educational community that we are not educating all children now, and that the environment within the classroom and school is not growth-promoting for all students (Ryan, 1992). The driving trend in education to serve demands of business encourages the specialization of studies toward the rapid growth domains of technologically directed sciences and information processing.

Brouwer (1991) identified the hurdles created for students in science and technology education by demands for acquisition of jargon, as well as skill in methods generated by experts. The foreign, abstract nature of much of this jargon and technique to the lived experience of students contributes to their alienation from sharing in understanding the content or in building a relationship with their teacher.

Foucault (1980) argued that it is essential to speak to those marginal to, and marginalized by, the discourse of our preeminent institutions, if we wish to change that order. Blade's (1992) study revealed the fluency and willingness of students to enter into discourse about curriculum and school practice to help direct change. One student in Blade's study said, "we're the ones in the desks, we're the ones who have to understand it and use it later on; it is, after all, the students' education" (p.16). Perhaps the current 30% drop out rate of Alberta students between grade nine and graduation (Millar, 1992) can be explained by students' rejection of Alberta's present approach. Without suggesting that the angry youth looting and vandalizing in Toronto in the Summer of 1992 were dropouts, they may have been lashing out at a society that not only marginalizes them for their colour or social class, but fails to recognize them as citizens with valuable knowledge and potential contributions.

Little (1989) cites Glasser's (1986) hypothesis that powerless students look for attention far more than they look for knowledge. The impact of recognition of their present powerless state is a failure for many to become involved in a process that labels them as low status. Glasser's (1986) solution was establishment of learning teams; to provide experience of shared power and responsibility, and to provide a sense of belonging and caring from their teachers and each other (p.228-229).

Vygotsky's zone of proximal development is relevant here: learning is a social activity, first occurring between people and then within oneself; what we can do with others is greater than what we can do alone. Recognition that human development is dependent for its advances on collaborative interactions is not new to school systems. It was simply lost in the bureaucracy and power structures that now epitomize educational institutions. In this context, to return to the concept of learning through sharing of expertise, is to find a new use for an old tool. In the face of fears of sacrificing authority and exclusive roles, teachers and administrators will need great courage to abandon the dominant educational paradigm, opening their minds to what parents and community have to offer as resources for learning.

Vygotsky's recognition of the impact of social tools as mediators of mind is discussed at length by Wertsch and Tulviste (1992), and Bain and Yu (1994). It is sufficient to acknowledge that individuals do not act in isolation, as their mental functioning has incorporated these ways of seeing and being with the world. To transform this functioning and to assimilate alternate perspectives of human existence, we need to recognize the experiences of people currently marginalized by our educational climate. This dissertation investigated the experiences of parents and students who chose to work closely with their schools in an attempt to improve the school environment and stimulate personal development for all participants.

A Road Map For Change?

Social constructivists such as Giroux (1985) argue for reflective, sensitive and student-responsive behaviour that develops in such a community. Mitchell (1990) and my personal experience in a collaborative adult education setting, suggest that a widening network of shared ideas on curriculum development, lesson planning or other applications of methods, lead teachers to think as a community of professionals.

Rosenholtz's (1989) research demonstrates that collaboration and collegiality are related to job satisfaction, and a bit less convincingly, to school quality. This need to find and match teachers to jobs to encourage teamwork may encourage an increasing focus on organizational development and group processes research in educational literature. Strong, supportive, and risk-taking leadership is required of school administrators to facilitate building educational teams. Such teams can initially function in their own schools and eventually form collaborative networks within their district or province.

Huberman and Miles (1982) found teacher acceptance and high morale was essential for the spread of innovation; administrators can facilitate this atmosphere through their acceptance, support and timetabling. Bamburg and Isaacson's (1991) review of research on effective schools provides a list of 'essential' characteristics: (1) presence of a clear school mission, (2) strong instructional leadership by the principal, (3) high expectations for students and staff, (4) frequent monitoring of student progress, (5) presence of a positive learning climate,

(6) parent/community involvement, (7) emphasis upon student achievement of basic skills.

Idol (1992), having observed collaborative experiments in the United States, claims this knowledge should be shared by communities, teachers and administrators, allowing them to develop these features as part of their school culture, to go beyond cosmetic alterations.

Additionally, Mitchell, Ortiz, and Mitchell (1987) reviewed 'school effectiveness' and 'teacher effectiveness' literature, searching for critical factors influencing school program quality, and concluded that:

(1) it is impossible to predict a school's effectiveness on the basis of resources provided to it;

(2) substantial explanation is possible if process and climate are reported;

(3) effectiveness depends upon development of appropriate motivations among students, teachers, and administrators, not upon a desire for higher wages or better working conditions;

(4) enthusiastic teachers who are immediately involved with their students, eliciting student participation, through techniques like questioning, and using multiple teaching methods and curricular content are most effective;

(5) observations of teachers with students in classes are essential to discover the motivations and behaviours during teaching, as these are not conceptualized through teacher interviews;

6) the interactive and sensitive nature of the student-teacher relationship is critical to effective learning.

Operating from a hermeneutic-phenomenological framework, Van Manen (in press) described the collaborative relationship as providing a driving force for individuals to pursue personal growth and knowledge throughout life.

Lieberman and Miller (1990) described the potential rewards for such a collaborative effort: "these notions of shared work, shared problem-solving, mutual assistance, and teacher leadership in curriculum and instruction are...the cornerstones of building a school culture that supports continuous inquiry into practice " (p.108; cited in Borys, Taylor & LaRocque, 1992, p.10). Authors in favour of a collaborative model of education suggest costs can either be maintained at the same level or reduced, as a district expands expertise (Bamburg & Isaacson, 1991; Mitchell, 1990). If this commonsense idea can be verified, it provides significant appeal for administrators and granting agencies. But, what remains as a vast uncharted territory, are the ways to assess effective alternatives to the dominant educational paradigm.

Hurdles To Overcome in Assuming a Collaborative Model

Because power relations and exclusive roles within the school are threatened by this transforming principle, and greater involvement of parents will be encouraged, resistance is to be expected. Mitchell (1990) described the serious limits placed upon mainstreaming (an innovation intended to provide equality of educational opportunity for disabled or delayed students) by the failure of administrators to support it or to relinquish meaningful power to advocacy organizations in Canada. Beyer (1987) notes that:

> The knowledge structures that students confront and the ways in which knowledge is communicated to children are largely accepted as natural and right. The school serves as a model for accepted practice; it is not itself an object for analysis or possible alteration. (p.21, cited in Borys et al, 1992; p.3)

It would be unrealistic to believe that just providing goals from research findings would lead to their adoption by all teachers of differing beliefs, training and experience. Programs forced on the staff to 'reschool them' may be viewed as criticism of their efforts. Thus both the change agents, usually experts and administrators, and the programs are viewed as 'the enemy'. Little (1984) reviewing studies on professional development, observed that without norms of collegiality and experimentation, genuine change can't occur.

Another hurdle identified by Mitchell, Ortiz and Mitchell (1987) is the tendency for passionate, skilled teachers to be recognized by their peers and superiors, and subsequently to be seconded to administrative positions. If it is necessary to offer career benefits to keep these people in the classroom, such alternatives must be found.

Bamburg and Isaacson (1991) describe hurdles to development of collaborative education as: (1) the psychological attributes of educators (described as valuing stability and uncomfortable with conflict); (2) the lack of formal educator training in group process skills; and (3) the lack of time and resources to free teachers from contract demands, allowing them to develop such programs.

Bamburg and Andrews (1990) found that most school administrators unfortunately have been trained to 'manage', rather than to provide 'leadership'. Inadequate training leaves them unable to identify, represent, or confirm cultural goals of the school. As a result, they are resistant to focus on building meaningful relationships with students and parents, or on all students' achievement. Renewal of existing schools through introduction of change-oriented 'new blood' (from beginning teachers graduating from collaborative teacher training programs) will only succeed if school administrators can be actively involved as instructional leaders. Administrators will be expected to provide essential professional support, conflict management skills to overcome resistance from teachers, and a learning environment that offers opportunities for leadership, collegiality and experimentation (Goldman & Dunlop, 1990).

Mitchell (1990) was also critical of the movement to school effectiveness in that "teachers were caught in the web of objectives and implementation through the in-service programs...often little action will be taken because the making of the plan is seen as the remedy itself" (p.109). This belief has been expressed openly by teachers forced into helping formulate a five year plan for their school and then waiting and watching the years pass and not seeing the selected innovations ever implemented wholeheartedly.

Mitchell (1990) regarded social class and centralization of control to the school as determining factors of what innovations will succeed in a particular school. He suggests higher social class favors parental involvement in effective school programs, gains greater administrative support, and encourages the use of innovative technology programs in math, language, and thinking skills. He observed that lower class schools hold tighter organizational control over curriculum, have lower parental involvement, and a more traditional job-preparation role expectation for the school. Therefore Mitchell (1990) proposed teachers and other staff in lower class schools may be required to expend more creative resources to involve the parents in broadening educational opportunities for their children.

Greater demands on school staff in some settings was also supported by Van Ijzendoor and Bus' (1990) research suggesting that a particular parenting style contributes little to the education of their offspring. This relationship of school context, if it has been accurately described in some low income and undereducated settings, as well as in parents who appear to be resistant to any responsibility for educating their children, poses a potential barrier to evolving collaborative efforts in so intentioned schools.

Teacher Training- An Essential Part of the Transformation

Bamburg and Isaacson (1991) argue that teachers teach the way they were taught, regardless of training, due to their isolation and lack of power to engage in meaningful dialogue, or to make changes in curriculum, goals or outcomes. To overcome this limitation, education and teacher training must provide beginning teachers with an awareness of their own abilities, creativity, and power to make significant impact on students and school practice and how to become a part of a collaborative school environment.

Borys et al (1992), in calling for reconceptualization of the practicum as the most significant tool in teacher training, state:

> the practicum...should contribute in systematic fashion to the development of beginning teachers who have both the disposition and the skills to be inquiry-oriented, reflective, and capable of initiating as well as sustaining school renewal. ...an abundance of research provides strong indication that most conventional practicum programs fall far short of the mark. Typically patterned after the apprenticeship training model, these programs tend instead to encourage uncritical acceptance of conventional instructional and management techniques, to reward a utilitarian and technocratic orientation to teaching, and to reinforce individualism and isolationism rather than collegiality and collaboration.(p.25)

This clear recognition, by some members of the teacher training community, strengthens my argument that transformation in the philosophy, roles and practices of schools and teachers must accompany changes in teacher training. Young, idealistic teachers can not sustain their enthusiasm as innovators without a receptive support network in the school.

Another hopeful signal of the recognition of the need for a bottom-up reform of schools is the recommendation of the *International Comparisons in Education (1992)* to establish 'effective' schools, which feature close community involvement, promotion by merit for teachers, high achievement standards, and excellent principals. Although this report leaves what they mean by 'excellence' undefined, it does suggest some awareness of research findings on school effectiveness, organizational development and leadership. This awareness of research and its applicability to reducing drop-outs, changing student attitudes toward school work, and improving student achievement shows some movement away from the traditional perspective demanding fit of the educational outputs to needs of the Alberta economy.

In face of universal economic constraints, collaborative education offers a viable alternative to the 'back to basics' movement. Through sharing ideas, resources, and teaching duties with parents, students, and community; a school district may also improve it's efficacy. An example of success in networking school activities to the outside world is described in the Grimmett (1987) study of inservice leaders in British Columbia, where there are now enough peer coaching projects to establish a district-wide network for principals and teachers.

Current interest in collaborative education is also apparent in the Alberta Department of Education policy statement, *Education Program Continuity: Articulation of Childrens' Learning Experiences* (1988), addressing aims and implementation of service from Kindergarten to Grade Six. Similar philosophy and direction is described by the *Field Experiences Annual Report (1991)* which summarized and gave positive evaluation to a number of collaborative projects between the University of Alberta and elementary, junior high, and secondary schools. A stated goal of these projects was to enrich learning for both students and student teachers.

Making Collaborative Education Work

The language and substance of the proposed collaborative school system will involve educators at all levels, working as a team with parents and community resources to expand interests and knowledge of all the children. University researchers, teacher educators, administrators, teachers, and all school staff having contact with the children will be asked to cooperate in helping children to learn. The research described suggests that imagination and enthusiasm generated by such a collaborative effort will overcome the alienating atmosphere of many current school practices. Class, race, ethnic, and gender bias of teaching materials, and the inflexible nature of the power structure within schools, can be identified and alternatives more acceptable to the context and background of students can be addressed. Experienced educational researchers suggest a collaborative process involves parents and community in school function and develops a community of caring adults to support imaginative delivery of meaningful curriculum and assessment for students.

Bamburg and Isaacson (1991) propose school collaboration be based on excellence in four domains: (1) design, implementation, and evaluation of curriculum; (2) instructional strategies; (3) effective schools' research; and (4) collaborative decision-making models based on in depth training in group process skills. Research within schools exploring relationships, expectancies and social/structural characteristics should provide insight into these elements.

Borys et al,(1992) also state that "an important consequence of the development of shared working knowledge...is a sense of both organizational and performance efficacy, and consequently increased commitment to effort" (p.14). Research indicates that the most powerful incentives for teachers are the intrinsic rewards of positive feedback from students (Mitchell, Ortiz & Mitchell,1987; p.13). Rosenholtz (1989) observed that shared working knowledge contributes to effective teacher practice, which in turn, improves student performance and yields more positive student feedback. Teacher commitment is also increased in a positive feedback cycle.

Collaboration Succeeds in Manitoba Special Education

The consultative-collaborative model of special service education delivery, developed by the University of Manitoba and adopted throughout that province, has evolved over more than a decade. Students, parents, community members, advocacy groups, administrators, resource, classroom, and special class teachers, and support personnel provided feedback to researchers, through meetings, questionnaires, and briefs, that they organized into a summary report.

Freeze, Bravi, and Rampaul (1989), in *Challenging Every Child,* an evaluative report on the project, unanimously supported this service delivery model. The report contains recommendations to increase and improve mainstream opportunities and the recognition by the schools of their need for better professional preparation and greater parental involvement to meet the needs of mainstreamed handicapped students.

Mainstreaming into the regular classroom, seen as the most enabling environment, has been accepted. A child is only removed from that learning environment if all possibilities for success have been exhausted. Children are taught by their classroom teacher, with continual transfer of expertise and materials from colleagues, special educators, and support personnel (such as counselling, therapy, etc.) to the teacher. Parents, administrators, and all those working with the children, participate in decision-making and on-going evaluations of effectiveness of the plan for each child, allowing flexibility for modifications.

Their summary report of this effort is very supportive and harshly judges the history of special education delivery in the province.

> Manitoba is on the cutting edge of a second revolution in special education. A revolution that may meet more fully the challenges of inadequate assessment, inhumane categorical labelling, incorrect placement, debased curriculums, delayed and inconsistent program implementation, haphazard instruction, and insufficient support services and professional development (p.71).

School effectiveness research identified many of the same failings in regular programs for non-handicapped students, as well.

And What If We Don't Make the Necessary Changes?

In the face of increasing cultural diversity, there is a need to recognize the problems inherent in the structure and practice of our schools. Foucault (1984), describes the task as:

> the real political task in a society such as ours is to criticize the working of institutions which appear to be both neutral and independent; to criticize them

> in such a manner that the political violence which has always exercized itself obscurely through them will be unmasked, so one can fight them. (p.6)

The purpose of struggles to change institutions, such as the environment providing education in Canada, is to change the power relations in them. Ho (in press), addressing relevance of institutions serving immigrants to Canada, describes the present educational dilemma:

> Without questioning who/what is included and excluded by education; and why this is so; the schools will continue to exclude those who do not qualify to participate fully...Our institutions will have the simultaneous and increasing effect of excluding those, ... who do not qualify to participate, and become increasingly irrelevant to the experience of the people and problems which characterize our society (p.28-29).

Social critics of education, such as Michael Apple, have suggested that there is cause for optimism, in that not only better student achievement will be a product of a liberating science education but also novel social goals. The collaborative process is such a novel social goal.

Vygotsky's developmental approach to understanding mind and Kuhn's (1970) perspective on growth of a paradigm and intrinsic tests of its value, guided conceptualization and method of this research.

> At the start a new candidate for a new paradigm may have few supporters, and on occasions the supporters' motives may be suspect. Nevertheless, if they are competent, they will improve it, explore its possibilities, and show what it will be like to the community guided by it. In as that goes on, if the paradigm is one destined to win its fight, the number and strength of the persausive arguments in its favor will increase. (Kuhn, 1970, p. 159)

CHAPTER 3

Nature of the Study

Background and assumptions

Eisner (1985) asserts that the experienced teacher is something of a connoisseur of the knowledge and process skills within their subject area and is well suited for critical interpretation. My own experience as a science teacher for 18 years, supported by a Master's thesis concerning communication in science classrooms, has led me to conclude that examination of existing concepts of accountability and authority must occur if educators will be able to transform schools into more instructionally effective environments. Shulman (1990) recommended:

> Teaching and administration can not be contemplated separately. Policies for one group can not be promulgated in ignorance of the interests, functions, and roles of the other group. A coherent policy for the improvement of schools must take account of the real character of teacher incentives and the sensitive interplay of teacher and principal in creating the effective culture of the school.(p.xi)

This research employed a Vygotskian-inspired approach "to not only analyze teaching and learning as part of extant instructional practices but to create fundamentally new, advanced instructional activities; in other words, to produce learning by facilitating new forms of mediation" (Moll, 1990, p.12). I shared in the collaborative process by assisting with class preparation, helping out with class activities, or taking charge of the class for a period of time if the teacher had to leave.

The students were invited to visit our family farm and the junior high class celebrated year-end there with a barbeque.

I was not only able to witness and describe the changes in the roles and behaviours of individuals within each school community, as the collaborative model evolved there, but also to discover the meanings they attached to their experiences. By being a part of the everyday happenings of each school, I observed which elements of the collaborative approach were common to the various participants and settings and which were unique to a particular individual or event.

Moll (1990) provided insight into Vygotsky's zone of proximal development as a unit of analysis for this project; "the qualitatively different perspective one gets by contrasting students' performance alone with their performance in collaborative activity" (p.12). Vygotsky (1986) connected major turning points in child development with the appearance or transformation of new forms of mediation. He distinguished higher mental functions by four criteria: their social origins, the use of sign mediation, voluntary rather than environmental regulation, and the emergence of conscious realization of mental processes (Wertsch, 1985, p.25). Growth in each of these functions was watched for in all participants.

Aims and Limitations

Research is necessary to discover the strategies employed by teachers and the school community in involving students, parents and the community in a collaborative approach. This dissertation detected differences in strategies and commitment and the perceived impact of a collaborative model within different schools/classrooms related to the age or class heritage of that group.

Interactions between students and their teachers in science class, and with school staff are reported within the context of the relationships of parents, professionals and community to these individuals. Language interactions in the classroom and between the teachers, counsellors and other adults identified as stakeholders were carefully recorded.

As suggested by Kelly (1955) in his Personal Construct Theory, each person uses language constructs to join unfamiliar information about the world to what he or she already understands, thus reconstructing experiences to make sense of them. As Vygotsky (1986) suggests, talk in the classroom is central to this process.

Both parents and community members who are visible and active in the school and those parents who appear to have no involvement were interviewed, based on their involvement in school activities and school related parent groups. Van Ijzendoor and Bus (1990) interviewed 'Uninvolved parents', analyzing the relationship of parenting style and scholastic achievement of their children. They found that many uninvolved parents appeared to do little to help or encourage their children and that these children often showed poorer achievement in school than their classmates receiving parental support. I interviewed selected 'uninvolved parents' to determine: (1) if they are involved in other ways outside the school and really do have concerns about their childrens' school experience; and (2) what impacts they have upon their childrens' school experience.

The intent of the parental interviews was to inform the teachers and readers as to the nature of parents' and community members' expectations, their relationships with other stakeholders, and their perceptions of school effectiveness and value of the collaborative approach, as implemented in their school. Awareness of social structures emerged gradually through negotiation and interaction over an eight month period.

Practical insights and the pre- and post-intervention comparison in the design were greatly influenced by the field work experience of Barley (1990). Barley studied the impact of a new computerized imaging technology upon practice and relationships in two hospitals.

Comparisons of the interactions/relationships of three different age groups of students with their school and its stakeholders investigated how a shift in approach to education may lead to organizational change and influence perception. If perceptions of educational involvement and outcomes are indeed different, as suggested by research literature and personal experience, then the chronicle of discourse and interactions gathered in the data should be conspicuously different from what is reported in research literature for traditional classrooms with parallel ages and socio-ethnic constitution.

The parallel study exposed the evolution of the social/organizational relationships as the study progressed over many months in each setting. Interpretation of this development would not be possible in only one setting or if the study was short-term. This research into the influence of a collaborative approach to education was reported at the same time that media and educational research journals continued to report the effect of traditional scientific management schooling on individuals and society. This contrast will hopefully stimulate debate and promote critical analysis.

No attempt was made to study simultaneously the same variables in matched design traditional school settings due to lack of personnel and observation time. This comparison is, however, important and should direct future research.

Gaining Access

In the spring prior to the formal start of the study, I approached the principals of three schools in Central Alberta. Inquiries were made regarding their willingness to participate in this project. Each was presented with supporting documentation, including letters to inform and gain parental and student consent. (See appendices) These schools were selected because they claimed the collaborative model. The teachers were approached by the principal (independently of the researcher) and volunteers sought. Those who were willing became participants in the study. The teachersand I selected which science class I would observe. I described the study to the students in early September and gave them the information/consent letters to take home for return to the classroom teacher or myself. Videotaping was not initiated until the majority of consent letters had been returned to me. This preliminary process took two months and involved observation in the classrooms and school at large, as well as initial interviews with parents and school staff.

Research Design

I recorded classroom dialogue and interviews from front office staff, counsellors, teachers, parents in school and students to get: 1) how understandings of events were constructed by the participants; and 2) how these understandings were shaped by the culture of the school and community.

Demographic factors recorded included sex, age, and training of the teacher; perceived abilities and attitudes of students; and the context of the classroom, school, and community. Elements such as use of praise, control of time, allocation of resources to teachers and students and the emotionality, which are significant in transmitting appraisals and providing control, (Apple and King, 1976) were also reported. The interactions of teacher with students and between students were recorded to discover observable changes in pupil behaviour that may promote observable growth in self-confidence, involvement, and achievement.

I spent one day per week within each school, not only visiting the cooperating teacher and her class for one or more class periods, but also discussing the week's events with staff from all aspects of the school community and with visiting parents. Field notes were made in each science class to develop a sense of class environment and interactions as well as factors that could influence interpretations of notes or videotaped discourse.

The observer's verbal behaviour inventory (VBI), adapted from Kelly (1955), found to be a productive tool in my master's research on gender differences in language interactions in science classes, was applied to a selection of videotapes with adequate audio quality. The routine of students in both the elementary and junior high school working in small groups of four or five on cooperative learning activities at a table, meant that, on many occasions, only the conversation of the nearest huddled group was of a quality for analysis, while other groups' voices were only a drone.

In spite of moving the camera and the use of a convention microphone, the number of tapes with adequate clarity and volume was less than originally planned. For uniformity, finally, I analyzed six tapes. The VBI Summary from the sample of videotapes for each classroom observed is presented in the text of the chapter concerning each school, under the section Collaboration in the Classroom. Each identified significant language interactions. These records represent the interactions and nature of language used in each classroom and are described for each school. Interviews with students, cooperating teachers, and a diverse sample of school staff contributed to a database constructed to discover common strategies and routines that impact in a meaningful way on the nature of the discourse, relationships and perceived learning.

Preparation of stakeholders for teaching and learning in a collaborative model for the outset of the term was sought through interviews and observation at the beginning of the term. Expectations of, commitment towards, and perceptions of the school's approach by the stakeholders (students, parents, teachers, counsellor, principal and involved community members) were interpreted from a series of informal interviews which directly questioned these points. (The questions asked of parents, teachers, staff members, students, and administrators are outlined in Appendix D.) Whenever compelling insights or sentiments were expressed, the participant's own words were included to capture the sense of their experience.

I was in these schools from September until May and maintained contact with both staff and parents to verify their interpretations and keep in touch with what would be happening in the school in the upcoming year. Close ties developed, and many of those interviewed continued contact with me. I took notes as they answered my questions. I read my notes of their responses to them to be sure the notes reflected what they intended to say. I also attended staff meetings, special events and social occasions in these schools.

I did not join the classes during exam weeks or in June, so as to reduce any distraction that might provide to the students. After initially observing classes when a substitute teacher was present, I discovered that the students' familiarity with me interfered with their attentiveness to the substitute. As these substitutes are often at a disadvantage in this situation, I chose to stay out of class when they were present.

Everyone quickly became accustomed to my continuous note-taking. I discovered those being interviewed preferred this method to being taped. Subsequent interviews with the same person focused on what may have been missed previously and present impressions and satisfaction with input into the decision making process in each of the schools (See questions in Appendix E). Reflection on observations within each school and from interviews with parents and staff revealed similar experiences as the collaborative project evolved.

Initial contacts with the schools and interviews with actively involved stakeholders required flexible timetabling on my part. Often, I met parents and some staff at local doughnut shops to conduct the interviews at times convenient for them. Interviews ranged in length from 40 minutes to two hours, depending on whether one parent or a couple was to be interviewed. Interviews with identified 'uninvolved' parents followed, continuing into December. Second interviews were spread over many weeks at the convenience of those interviewed, until all questions had been posed to each of the cooperating staff members, administration and parents by late May. Observations were officially completed in April, but the invitation to continue sharing life in these classrooms resulted in regular visits throughout May.

Completion of permission forms by parents was a drawn-out process which continued until the end of the school term. Although most parents signed and returned forms with their children at the elementary school, many at the junior high and high school levels did not respond until two more letters were sent home with students. Some even failed to respond to self-addressed stamped forms going to their homes. I finally received consent from seven families by arranging to come to their homes so they could sign the form.

Several of these parents said that their children seldom bring home school news or forms for their consideration. Interestingly, this excuse for failing to read and return the consent form was not convincingly substantiated by the 'uninvolved' parents interviewed.

School culture (social organization) represented in field notes by daily exchanges were enriched by observations of staff meetings and school gatherings. I observed and recorded one day in each of the schools in an attempted weekly rotation of the science class. Example: Monday in School 1, Tuesday in School 2, and Wednesday in School 3 this week, following through the alternate days for the science class in each of the three schools in following weeks. Outside of the scheduled science period, there was ample time to interview and observe interactions of the adult stakeholders within each setting. This design provided a representative sample of each school's activities.

Methodology continued to evolve as I became immersed in each setting, and became aware of the nature of the discourse and interactions. Stages of development in this methodology were influenced by the school contexts as surely as by the researcher's interest in observing/chronicling relationships and practices in primary and secondary collaborative school settings. Reporting stakeholders' perceptions of the collaborative process and its outcomes illuminated the value of a collaborative model in these three settings and can provide guidance for other institutions that are considering transforming their schools.

Analysis of classroom observations and interviews was concurrent with data collection, shaping the focus of ongoing interviews and arousing new questions. The massive body of data required to discriminate categories of information addressing each of the basic questions resulted in research continuing until term end. Perceptions of the program's efficacy to the students and other stakeholders were sought through contrasting individual interviews, researcher fieldnotes, and videotape. Perceived social and organizational changes in roles and interaction that evolved as the study progressed were reflected upon by the selected stakeholders and related to final academic and social achievements and attendence in the class, as reflected in their final achievement.

Comparison of expectancies with the observations of the researcher and the reflective interviews with the stakeholders will enlighten the participants and interested readers about the nature of change toward a collaborative model of education. This dissertation uncovered contextual limitations or idiosyncracies that impacted on student' learning or outcomes for other stakeholders. As well, suggestions arose for longitudinal research to discriminate the worthiness of the large assumptions and findings of this study.

Research Questions

Three broad questions delineated the evolving research design.

1) What differences in these settings may be related to the particular age of the students, with subsequent differences in roles assumed by the other stakeholders?

2) What conceptual similarities that span relationships and interactions within individual schools may be discerned as related to the influence of assuming a collaborative model for education?

3) What other detected differences may be specific to idiosyncracies of the individual contexts?

By conducting parallel studies (Barley, 1990) in three schools, idiosyncracies that impact on perceptions and interactions of the evolving collaborative setting may more easily be detected, as well as their commonalities. Commonalities may be generalizable and considered related to the collaborative approach.

Presentation and Validity

The research was presented to potential adult participants in each school and to a science class selected by the teachers and administration as:

1) essential to understanding patterns of language used by students and teachers in order to analyze relationships and meaning from actual events in these science classes;
2) informative to educators and educational researchers about the development of collaborative relationships, practical aspects of curriculum, timetabling and administrative support for this approach, across the primary and secondary school continuum; and
3) not reflecting in any manner on the grading in the classes.

The information sheet describing the research, my interest and relevant experience is included as Appendix A. The information/permission form sent to parents/guardians is included in Appendix B. The VBI is included as Appendix C.

The design was sensitive to potential contextual problems within three different settings and flexibility to meet the demands of unexpected events was a trait of planning methodology and analysis. Internal validity is a measure of how well study design controls for alternate explanations for performance on the dependent variables and is often described as threatened by history, maturation, or instrumentation. History refers to events which occur prior or during a study which may influence outcomes. The prior events cannot be accounted for, but the duration of the research should minimize the influence of concurrent events or maturation changes in the individuals (such as physical or mental changes or adaptation to the experience).

It is admitted that the presence of an interested stranger focusing on the interactions and language of the school stakeholders as a system, and on three science classrooms in particular, may have influenced judgements of self-knowledge, motives and strategies, general science knowledge, and nature or frequency of participation. Videotaping the interactions to provide a record of events, was chosen to improve accuracy while enriching qualitative data.

Analysis

A Verbal Behaviour Inventory, to discriminate patterns and idiosyncratic traits of the discourse and interactions within the three settings, was completed by the researcher. Experience with this tool in previous research informed the researcher of trends or patterns in the language and interactions of each setting and summarily pointed out commonalities, evolution of relationships and routines, as well as helped to identify idiosyncracies within a setting.

In the gender study, each class was divided into approximately seven five-minute segments, excluding the organizational and announcement phase at onset of each class, for purpose of analysis on the adapted checklist of major verbal interactions. Two of these segments were randomly selected. Each segment was identified by analysis of approximately 100 counter units (on an Emerson video cassette recorder) recorded for each class and the verbal behaviour inventory was completed for each day at each school. The Classroom Verbal Behaviour Inventory (VBI) from all classes was summarized and presented to show the total number of each of these behaviours by girl, boy, or teacher in each setting.

In this research, periods of active collaboration were analyzed, along with interactions in which other approaches, such as independent work or lecture were dominant activities. Comment on the nature and frequency of each of the verbal behaviours studied provides a comparison of who by and how often, these exchanges occur and produces an audit trail of discourse and relationships. This analysis also provided evidence as to whether the nature of the classroom dialogue in each classroom was promoting interest in science and what kind of teaching/learning strategies were employed. Due to mechanical failure of the player head during review preparation of tapes, the number of class tapes with audible sound was reduced, as six tapes were irretrievably damaged, yielding a sample of 100 minutes for the junior high school. There was sufficient selection of quality videotapes to provide the desired amount of 150 minutes of representative samples of dialogue for the elementary and senior high school.

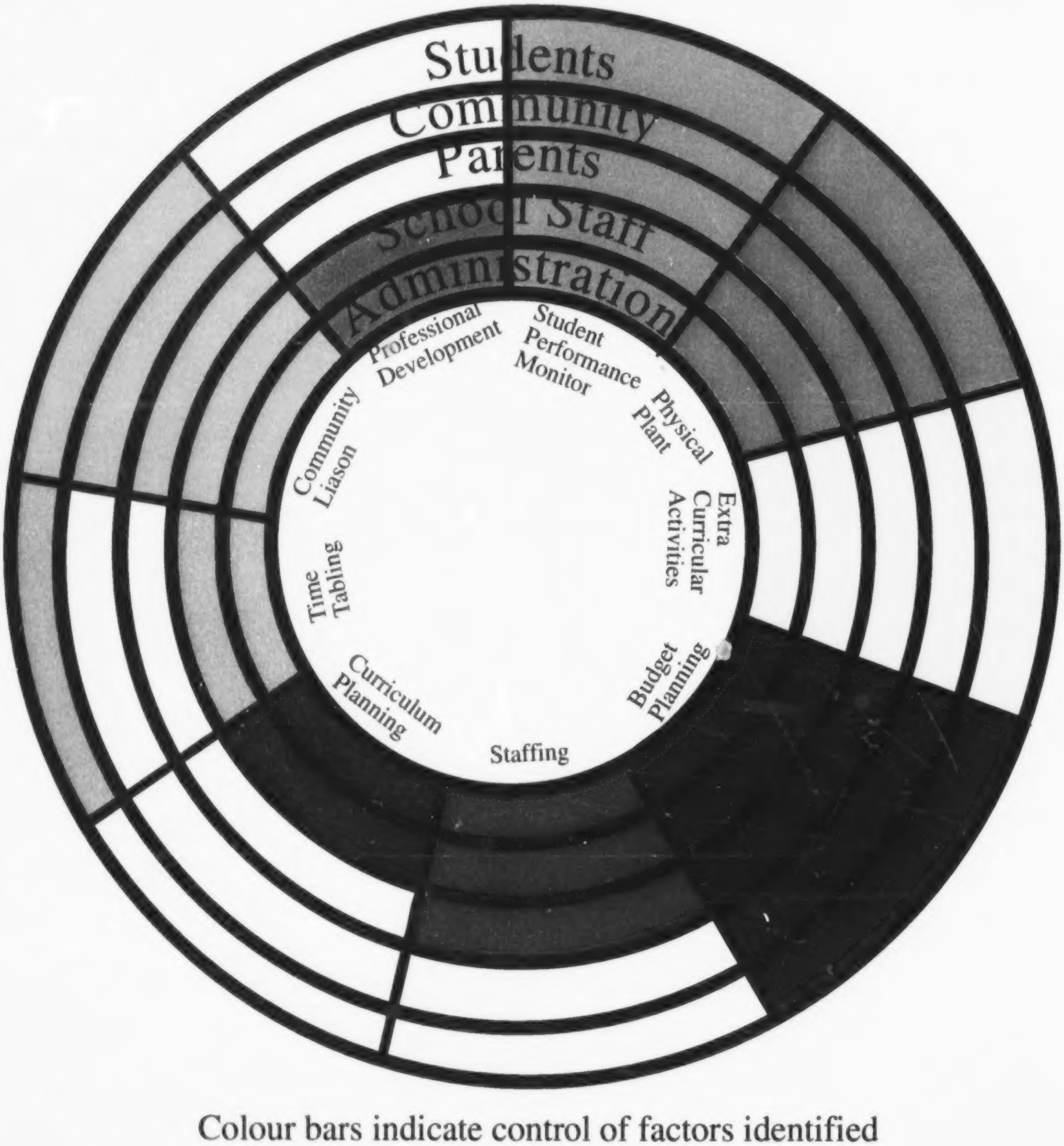
BUILDING PARTNERSHIPS IN A CONTEXT OF ECONOMIC AND SOCIAL CHANGE

Figures 1, 2 and 3 depict the involvement of each stakeholder in these schools that describe themselves as operating as partners with parents and community. They also serve as 'advance organizers' for reporting of subsequent findings. Differences in the nature of collaboration implemented in each of the settings begin to appear when the figures are considered. The extension of the coloured zone for each of the nine factors, that govern daily practice of a school, indicates which stakeholders have decision making input. This involvement was identified by the participants as meaningful input that they are satisfied with.

These figures identify the unusual level of collaboration that typifies the philosophy and practice of these schools. Clear differences in the powersharing can be discerned between the elementary school which is under the jurisdiction of the Catholic School System and the junior high and high school which are part of the Public School System. Since the reduced control of the elementary school is to a great extent a product of forces beyond their control, their ability to import collaborative strategies to address non-site based decisions are uncertain.

Figure 1

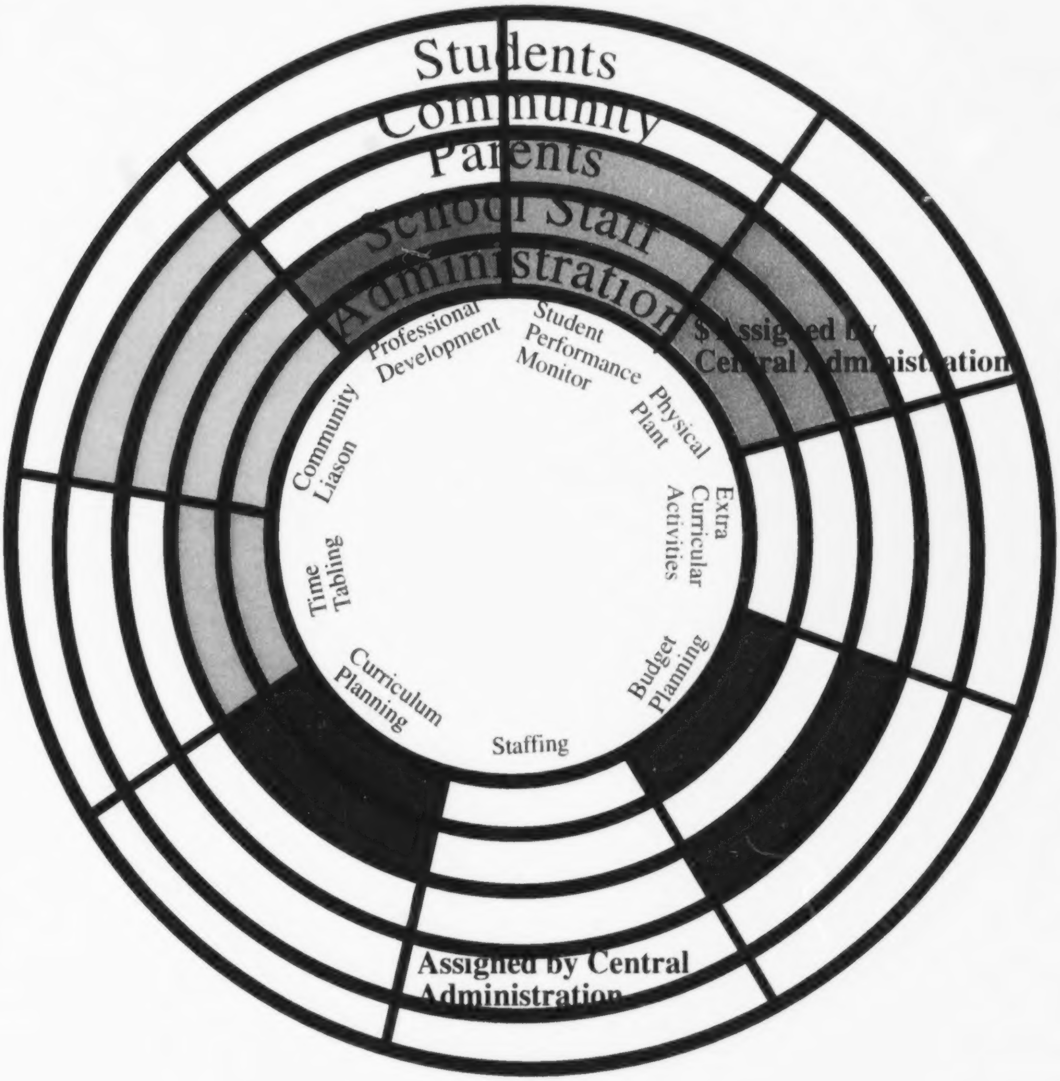
Collaborative School as Community
Friendly Giant


Students
Community
Parents
School Staff
Administration
Professional Development
Student Performance Monitor
Physical Plant
Extra Curricular Activities
Budget Planning
Staffing
Curriculum Planning
Time Tabling
Community Liason

Colour bars indicate control of factors identified

Figure 2

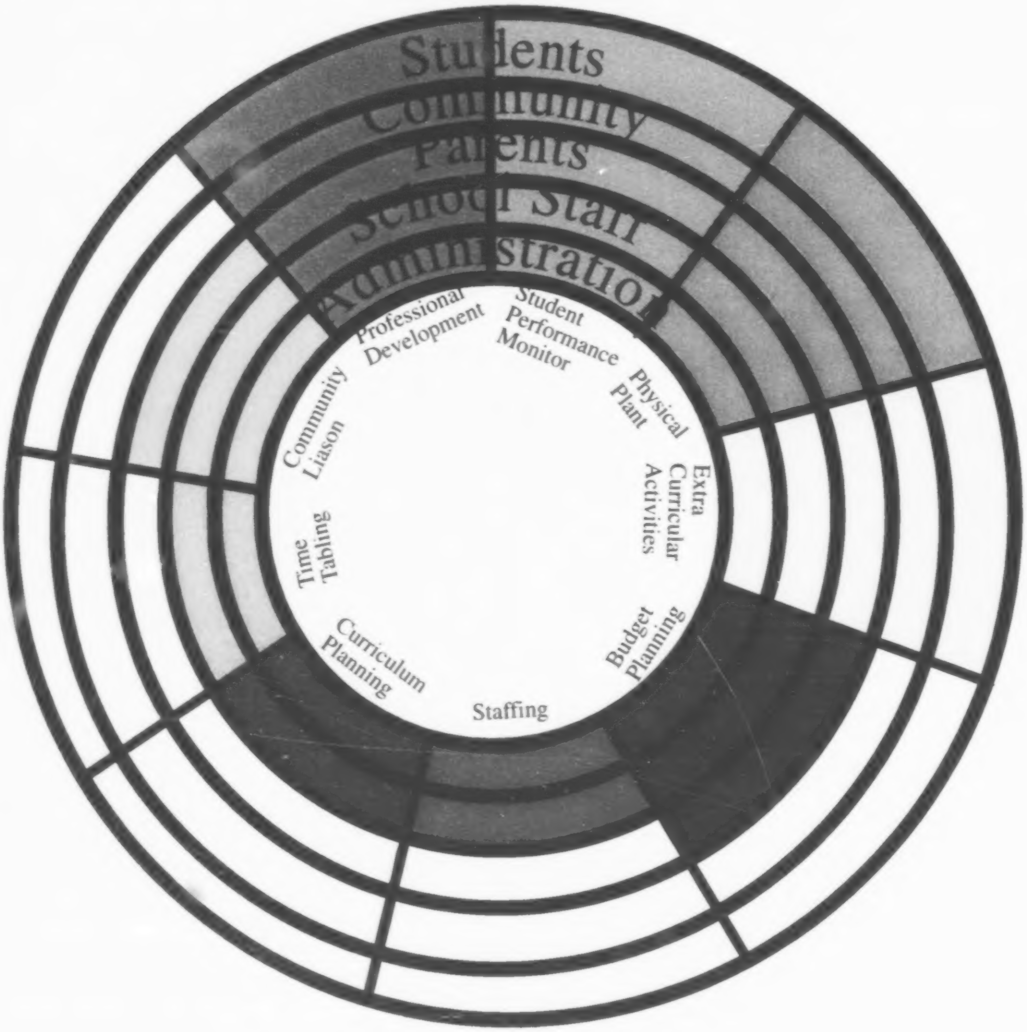
Collaborative School as Community
Teddy Bear School


Students
Community
Parents
School Staff
Administration
Professional Development
Student Performance Monitor
Physical Plant
Extra Curricular Activities
Budget Planning
Staffing
Curriculum Planning
Time Tabling
Community Liason
$ Assigned by Central Administration
Assigned by Central Administration

Colour bars indicate control of factors identified

Figure 3

Collaborative School as Community
Star School Enterprise


Students
Community
Parents
School Staff
Administration
Professional Development
Student Performance Monitor
Physical Plant
Extra Curricular Activities
Budget Planning
Staffing
Curriculum Planning
Time Tabling
Community Liason

Colour bars indicate control of factors identified

The following three chapters demonstrate that adaptation of existing practices toward teamwork with all school staff, parents and community has made differential progress in the elementary and senior high schools. With a plant designed to support the technology, and staff specially chosen to deliver curriculum and student services through a team approach dependent on parental and community support, the junior high school has still to negotiate the human relationships to empower the collaborative model.

The findings will identify their accomplishments through teamwork and those processes requiring further development for the implementation of each school's chosen model of collaboration. Focus on factors such as communication networks, classroom collaboration and perception of the participants discriminate among common features and idiosyncracies of each school for the reader.

The aliases for individuals throughout the text were chosen by each participant and the school names were chosen with the assistance of either the students or staff. The truth of observations was tested by reading sections of text that were descriptive or based on individual's interviews to those involved and verifying my observations or analysis with them. I am deeply indepted to my three cooperating teachers, to many other staff members, and to several parents who provided ongoing support and reality checks of text.

Stress on a positive learning experience, recognition and reward of effort and achievement and the development of interpersonal skills that allow students to be their own advocates underpin the practice of each of these schools.

The perceptions of the impact of these practices upon quality of individual lives are shared through their own words and researcher observations. Subtle differences in quality of individual experience for stakeholders are best discovered in their observations of their school. Individual strategies relating to the age of students or idiosyncratic to particular physical or developmental challenges faced by some individuals or settings will be discussed.

CHAPTER 4

THE FRIENDLY GIANT: ONE STUDENT AT A TIME

Individual attention to students describes the climate and physical approach of a rambling, urban, 30 year old senior high school with about 2000 students and 150 staff. The school offers a complete range of academic, technological and career training, and extra-curricular facilities. The 1993-94 budget was $8.5 million. Responsibility for the operation and planning is shared by staff, administration, parents, community partners and to some degree by students (See Figure 1). The school's philosophy is that success of the school depends upon close partnerships with the home and community.

The physical plant is departmentalized according to subject area and supporting technology. Each department has a number of instructors assisted by a department head responsible for supplies, coordination of professional activities, common exams, etcetera. Many departments have a central meeting room (cum social center) through which nearby staff keep in touch with each other's personal and professional lives. The math lounge is a frequent destination for staff due to its central location. The administrative wing is a relaxed setting, with students, parents, staff and guests coming in to chat with administrators and support staff and obviously comfortable with the open door philosophy.

The surrounding community is multicultural and covers the full socioeconomic spectrum. The school constable, who has been here for six years, praised the students for how well they get along, with very few fights in what he called a United Nations of very distinct groups.

This school offers the widest range of courses available in this urban setting, providing options for the entire range of abilities. About 45 languages are spoken within the student population and over 100 students are studying English as a second language. Partnerships with an active treatment hospital and a large retail shopping mall provide unique opportunities for a rich learning experience for between 400-700 Work Experience students. The marketing course, taught in the mall, has doubled in enrolment in its third year. Free space has been provided by the mall for a 'classroom in the mall' to keep those students skipping classes and hanging out in touch with their academic programs. The school staff believe this voluntary program successfully reaches out to students in danger of dropping out. The intent is to reduce their feelings of alienation during crisis in their lives. Support for this classroom and volunteer staff is forthcoming from commercial ventures for a second year. Mall merchants are invited to hire only students from this school with good attendance and performance in school. Both students and employers are enthusiastic about involvement in this program.

Sharing the Experience

When searching for a high school that claimed a collaborative pedagogy for a research site, a professor in another department asked why I was not talking to this school. He proceeded to describe their teamwork and community partnerships that were gaining a great deal of parental support and the active involvement of the university. This individual said the principal would likely be interested in my proposed research and suggested that I contact her. I met with the Principal and provided her with a synopsis of the proposal and copies of the information and permission documents to be distributed to teachers, parents and students.

The warmth and enthusiasm of the principal's response to the project assured me that I was welcome to witness and analyze how the staff implement a team approach to the governance and daily operation of this large urban school. The principal asked if anyone in the science department would volunteer to be my cooperating teacher. Within a few days the schedule for my involvement in the school was in place and the Science department head had offered her class of Science 10's for observation. I was granted tremendous freedom to wander about the school interviewing staff willing to share their ideas with me. I was invited to attend meetings of teachers, staff and parents. Preparation and marking for the class that I was instructing in my department at the university meant that I could only attend two social events at the school. Both occasions were very enjoyable with a group of people who clearly enjoy each other's company and respect each other's ideas.

This enthusiasm and openness to my steady questions and presence prevailed throughout the year. At the end of my time there, staff members asked me to continue to drop in and keep them informed of what I was doing. Requests to read the chapter about observations of their school were common and sincere.

Slick, the alias of my cooperating teacher, was warm, rowdy and energetic with six years of university training and fifteen years teaching experience. She could encourage more production from science students in a single period than most teachers I have encountered. Her sense of drama made many classes a memorable experience for students and observer alike. She was analytical in her approach to teaching and to my questions, helping me to meet staff who might be expected to provide alternative perspectives on personal and professional issues in the school.

She readily helped other staff, but said that she is always careful not to insult someone's intelligence by telling them how to solve a problem or by doing it for them. She offered to collect the resources and train staff so this school could be the District model for safety in lab activities and handling of hazardous material (WIMAS). She volunteered to be the liaison between the school and Alberta Education, attended each monthly meeting and took a very active role, as those who know her would expect. She also involves her students in Science Olympics, Science contests, and encourages them to write scholarship exams for both income and experience. Her hard work and compassion for those with whom she works each day was appreciated. Slick was recently nominated for a major Canadian teaching award by the Science department and the principal.

Slick tests new ideas on friends in the department, on her liaison vice-principal and directly on the principal. Feedback from these sources usually guides her decisions. She can also turn to friends outside of school or to her husband for emotional support. Throughout my research project, I felt confident about her reactions to my questions or observations as I could depend upon her to tell me what she believed without prejudice. This relationship gave me easy access to school performance data and interviewees that I would have had great difficulty discovering on my own.

On a daily basis, I was witness to the teamwork of a large staff, who appear to really like students and enjoy spending their days in helping them to grow. However, anger and frustration about the impact of present government policies on students and their families was a recurrent theme with staff throughout the school as they described unnecessary tension and the abandonment of many students as a result of cutbacks.

What does collaboration entail?

A new staff member with 13 years experience spanning elementary to high school instruction, described the central element to this school's collaboration:

> I've never been in a setting like this before with team cooperation. If I don't understand something or have a teaching problem, we all ask each other for how to do it or the best way. This has helped me immensely; for example in pacing curriculum. I can visit other departments to learn how what they are doing relates to my students' science experience. Playing guitar in the music class will let me meet and befriend more kids than those that I teach. This helps me deal with students in the hallways; questioning them is seen as concern not discipline. (personal communication, Feb.10)

Description of the school's collaborative model is based on interviews with 10 staff members (including administrators, counsellors, secretarial staff, school constable, librarian and teachers from four different departments), interviews in the fall and spring with the parents of six students in the class observed, two group interviews with those students, and nine months of observing climate and practice.

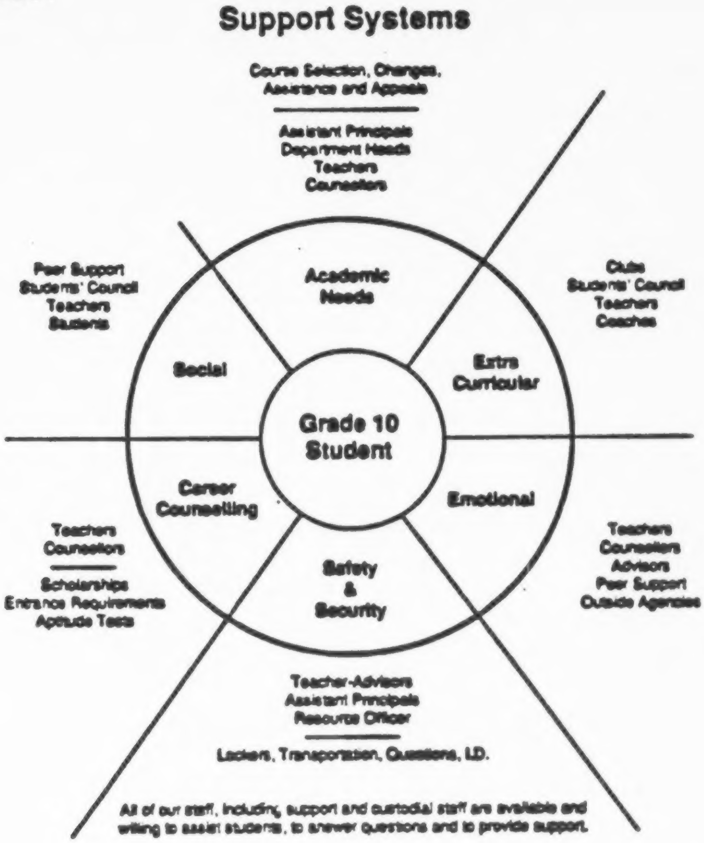
The school's team approach means that all 150 staff are equal members of a support system, regardless of their role as teacher, support staff, custodian, or administration. Parents serve on committees with staff members making decisions about staffing, budget planning, monitoring of student performance, community liaison, extracurricular activities, and the physical plant.

There are many opportunities for parents and staff to join or be a sponsor in a wide variety of clubs; eg. scuba, sports, biking. Partners from the local community, including businesses in a nearby mall, community professionals and the local hospital, have input into budgeting, student performance monitoring, community involvement and related extracurricular activities, as well as operation and maintenance of the physical plant. The support systems in place to provide information and help to students in dealing with problems are well advertised within the school community and were valued by the students.

Someone To Turn To

All staff provide guidance, time and care to students throughout the school. Teachers are accessible to students before school, during lunchtime and after school. All departments offer study sessions at lunch hour and after school on an ongoing basis by topic area and in preparation for exams. Figure 4 outlines the assistance immediately available upon request by a student.

FIGURE 4:


Support Systems
Course Selection, Changes, Assistance and Appeals
Assistant Principals
Department Heads
Teachers
Counsellors
Peer Support
Students' Council
Teachers
Students
Academic Needs
Clubs
Students' Council
Teachers
Coaches
Social
Extra Curricular
Grade 10 Student
Career Counselling
Emotional
Teachers
Counsellors
Scholarships
Entrance Requirements
Aptitude Tests
Safety & Security
Teachers
Counsellors
Advisors
Peer Support
Outside Agencies
Teacher-Advisors
Assistant Principals
Resource Officer
Lockers, Transportation, Questions, I.D.
All of our staff, including support and custodial staff are available and willing to assist students, to answer questions and to provide support.

(reprinted with permission of the administration from the Spring Newsletter provided to this school and to all schools from which students are recruited for fall admission).

Building Consensus

Staff view consensus of stakeholders and administrative support as essential, "any changes that we all feel may be beneficial will help to get them made" (personal communication with a librarian, Feb.10). Staff meetings, which, as a longtime teacher, I can recall are often resented by faculty, are held for all staff once a month and do not exceed an hour's duration.

Faculty Council meets twice a month. Department meetings are once a month. Turn-out is very high and if individuals can not attend they usually let the chair know in advance.

There is very active discussion, often triggered by the department heads presenting the consensus of opinion and new ideas generated within each department. The usual routine is to present ideas with a rationale for them, followed by debate and a decision. Staff question what they don't understand, but due to apparent trust in the principal, any priorities brought forward from the front office tend to be supported, if the staff agree with the rationale. Faculty Council makes recommendations for the whole staff to decide on by voting.

When staff were questioned whether they were satisfied with their input into decision making in this school, they unanimously said they felt their good ideas were followed up and implemented.

Within departments, teachers described how they parallel their courses, share resources, exam production, course responsibilities and social activities. Staff feel they are very close for such a large school. Staff take classes for each other or fill in as needed in a time of personal problems. Part-time work and job sharing is well received. Staff members are given opportunities to try new subject areas or jobs and Department members support them with resources and guidance in these new endeavours. Some suggested that going for drinks on a Friday or a good turnout to a social event or golf tournament is part of this comraderie.

Building a Positive Image

Discussion with a local business owner (June 17, 1994), employing students from this school, identified his interest and pride in the school and its expectations for students. All parents interviewed were enthusiastic about their families' experience at this high school. They contrasted it in a most favorable light to both the reputation that the school had within the community before the current administration initiated the present collaborative model and to unsatisfactory experiences that their own or friend's children are encountering attending other city high schools. Their insights and suggestions that are relevant to the school and Public School Board are summarized later in this chapter. Word of mouth is obviously an important factor in educating the surrounding community about the nature and services of their high school.

The principal is a strong leader, an outspoken advocate for her school, and very involved and visible in the community through service organizations, public speaking, and close ties with the University. She is committed to involving parents, staff, students and forming partnerships with local businesses, hospital and university in the operations and governance of the school. The principal's open door to students, staff and parents provides her immediate attention to problems or concerns that might otherwise go unattended or pass through a bureaucratic maze elsewhere. This practice is highly regarded by parents. Parents said how comfortable they felt there.

It is evident that this commitment from the top has an impact. Approximately 1000 parents turned out this year to Meet the Teacher night. March alone had over 200 parent volunteer hours contributed to hall patrols, reading with students, library, or the Pilot program. Two thousand spectators supported the basketball tournament. All parent-teacher interviews, band concerts, awards, graduation, and sporting events are usually ensured a full house. The school constable pointed out:

> more than 20 staff members (including the principal) came out to watch the junior boys win the city finals. They go because those students are in their classes. Kids are really impressed by this support from staff and their families. Staff bring their cars here to be fixed by our students in automotives; lots get hair cuts in our beauty culture. (Personal communication, Mar.11, 1994)

In June, when families are involved in a new season of summer activities that tend to steal them away from PAC meetings, there was still a turnout of over 30 exuberant mothers and fathers and a number of staff to the final meeting. It appears that involvement creates a sense of community rather than just of workplace or factory. Another essential element in successful collaboration within the school is reliable links with student's parents.

Communication between home and school:

Responsibility for their children's attendence and homework completion clearly is placed upon parents and students in the many documents and information sources provided by the school. A 90% attendence policy is universally enforced here and parents are contacted after a student has three absences from a class. Teachers and counsellors can track a student's attendence in all of his/her classes by checking the daily report of verified absences posted in the mail room. Slick demonstrated the belief that students should take attendence seriously by jokingly asking students leaving the room at class end to " tell the two boys skipping today, that I am gunning for them" (Jan.19). Students interviewed respected the policy and felt that it was helping performance in classes.

Support is offered to parents in the form of information, assistance to access needed governmental or social agencies, and "counselling to help parents in maintaining supportive relationships at home - which in turn promote success at school" (from initial pamphlet given to all students and parents each year).

Each teacher is to call the parents of her/his third period advisor class and invite them to all major school functions. The administration will phone those without an advisor class. This personal invitation does not always succeed as identified by one couple during parent interviews. However, if students take home the newsletters and daily bulletins, parents can see a complete monthly calendar of all school events plus information on study and organizational skills, counselling information, perfect attenders and award winners. Regular attendence reports are sent home and teachers routinely call parents to involve them if students are having difficulty. Letters and calls from both teachers and administration are sent to advise families of accomplishments of their students.

Networking to involve parents and students in the school community is supported by the strong communication channels that have been built up over the four years that this model has been evolving here. This collaborative model is described by those who have witnessed its evolution as a process that takes time. The principal suggested a minimum of three years is required to negotiate the relationships between people, create the structures and process to gain: 1) the support of committed staff, 2) partners in the community for enrichment of learning and work experience, and 3) a widespread community respect and appreciation of the contribution of the school to community life.

On at least four occasions this year, local newspapers and television carried very positive stories about the community involvement of this school. Recognition was given to how the school involved students and their family members with the elderly in a nearby hospital through projects. Some students paint the portraits of these patients, others listen and write their life stories, while others come in weekly to do their hair or manicures. What rich and relevant learning beyond core curriculum is being gained by such collaboration?

Keeping the Faith: Hope in the Face of Education Cuts

Staff members described how important both the supportive administration and collegial network has been to their personal and professional growth while facing the stress of cutbacks and layoffs that touch their own or students' lives everyday during these conservative and recessionary times.

School-based budgeting means that with the collective efforts within departments and of Faculty Council, that encompasses all staff equally, there has been excellent communication about cutbacks. Staff can jointly decide on strategies to save money while protecting jobs. Before any announcements appeared in local media, the Faculty Council was analyzing school practice and costs to discover ways to save money. Staff want to retain teacher aides in spite of downsizing, as they depend on the aides to help more than one student in a class.

Resentment was often expressed by staff and parents toward the heavy handed approach of the current government to resolve a provincial budget deficit on the backs of the ordinary citizen. I sensed an 'in your face' defiance and pride in how this school will pull together to reduce spending while protecting programs.

Unfortunately, as announced at the June PAC meeting, the lowest enrollment courses are threatened, as classes will not be financially viable with fewer than 25 students. High enrollment subjects, such as computer and technology studies, will have more classes running next school year. Class sizes will not be allowed to exceed 35 students but this load is generally recognized to be a real hardship on instructors.

A long term math instructor described retention as the basis for Alberta school budgets. He said departments in this setting are discussing these retention figures now, as they will be a consideration in determining surplus staff. "I see this as fair but there may be a problem setting up this process. We'll set up a grievance procedure, so I think it is a good direction to go" (personal communication, Feb.8 ,1994).

In a time of staff reductions throughout the province, many in school communities are very concerned about seniority, relevance of their specializations in terms of healthy student populations, and about yearly evaluations. The honest open dialogue characteristic of this school is viewed as essential for staff sanity as tension mounts in response to media coverage about cutbacks in education and government proposals. A teacher said,

> I don't think our staff are threatened by evaluations, because we have a large say in deciding how and on what we are going to be evaluated. Our evaluations are positive; if a problem is identified, then solutions are provided. We have opportunities to visit each other's classes and we look at ways to help the individual improve, rather than focus on what was wrong.(personal communication, Feb.10, 1994)

A counsellor recalled "similar staff cuts in Alberta schools in 1975, which like now stifle professionalism and have staff sizing each other up" (personal communication, Feb.10). Another of her concerns, also voiced by staff in lunch hour discussions, was that consultants may 'bump' school staff because of their seniority. A sad observation by the secretarial staff, who mingle with most of the staff on a daily basis, was that new staff members, who can not now be offered a permanent contract, are very reluctant to leave this committed school community.

Opportunities for Personal and Professional Growth

In spite of tight budgeting, inservices and conferences are still provided as part of the growth for staff. Most often the staff do not have to absorb any of the cost, only provide their time and enthusiasm. This school offers development money for permanent staff. Individuals needing more funds than their annual allotment, can borrow from other staff members and pay it back the following year. This process usually occurs within departments and allows for activities such as conference attendence, etc. that might not otherwise be possible.

According to library staff, inservices occur three times a year and encompass all areas of the school. Consultants from the District are available as another support system for staff. In the past, study leave to return to university was supported by funds for sabbaticals or granted as leave without pay. Their position in the school was held for them. The school follows the District's principle of voluntary transfer to another site within the district, if a position becomes available.

Slick attends evening university courses and uses some of her late evenings and weekends to complete coursework. Selection of her courses is based on both interest and career advancement. She uses her experience and energy to impress upon her students the relevance of science to their lives and personal success. Student's appreciation of her enthusiasm and rigor was evident in the end of term student feedback handouts she shared with me.

Work ethic and expectations

Throughout the staff, there was a keen appreciation of the stance taken by the administration and counselling department in exposing new students and their families to the collaborative model. The expectation is that all staff and parents pull together, demanding self-discipline of students, regarding appropriate conduct, homework completion, and regular attendence. Expectations are shared through incoming interviews, information in the registration packet, newsletters and reinforced by contracts signed by both parents and students.

In school handouts and class discussions students are reminded of the rules and of the avenues available to mediate problems. There are peer support groups, trained conflict mediation groups, seven active and visible counselling staff, and a fulltime constable. The presence of the constable signals that any illegal or destructive conduct will not be tolerated and will receive immediate consequences. He is also a trusted friend to many students and very active in sports within the school. Problems are usually resolved without altercation when channeled through at least one of these avenues. That students take ownership and often identify problems early or solve crimes (that inevitably occur within such a large population) is a source of pride to the staff.

Clear consequences to student disruptions or lack of commitment are enforced by all staff. This consistency was respected by parents interviewed. Little resentment of the rules was expressed by students in the hallways or interviews.

This pro-active approach requires students to be in classes or study hall during classtime and eliminates the disruption of uninvited visitors. All staff leave their classroom doors open as part of a 'Red Alert System' to ensure that students do not wander the halls and that visitors are properly directed.

Teachers and administration share the job of supervision with the school constable and some parent volunteers. My cooperating teacher said, for her, this involves one-half hour of noon supervision each day of every third week. The large staff size ensures adequate numbers to keep the supervision from becoming too onerous a responsibility. Many adults volunteer part of their lunch periods to share sports in the gym with students. It was not unusual to see 50 or 60 students in a gym with a few adults on any lunch break. The principal arrives at school each morning long before other staff to get paperwork and personal planning completed, freeing time later to share supervision and public relations functions with parents and staff. Students appear very comfortable approaching her. Her commitment to a safe, friendly school is respected by staff. A long-term teacher observed, "She never asks anyone to do anything she wouldn't or doesn't do herself" (personal communication, Feb.9).

The block three teacher is advisor for the semester to those students, providing information and an entire support network. Teachers help each other's students within and between departments. Students are aware of the availability of help and of the emphasis on their being responsible for accessing this help. Students are friendly and polite to staff and adults in the halls as there are always parents and guests in the school. I noted that all students are treated in the same manner, with warmth and respect and it is mandatory that students extend the same courtesy to their instructors and peers.

Teamwork within the classroom

Slick and her students shared insights into how science permeates every aspect of life in a developed country like Canada. High regard for achievement in science as critical to a career was evident in comments of both teacher and students.

Strategies to assimilate this curriculum and communicate it effectively in exams and written assignments were discussed on a daily basis. Knowing how grading is done on Science exams and what expectations are in terms of writing style and quality are valuable insights for students, but not always communicated to them by instructors. This knowledge appealed to the students, as evidenced by increasing numbers of questions and comments as they became accustomed to the classroom routine of brainstorming solutions to problems and discussing relevance of topics.

Effective communication and interpersonal skills were stressed. Ability to understand the decision making process in grading was fostered through Slick's practice of having students 'play teacher' at the board and in marking each other's assignments before handing them in to her. Talk was encouraged during class exercises or marking as a vehicle for gaining understanding of what was written or how it would be graded on common or diploma exams. "Talk to each other if you have to, be fair is the point" was often heard. Students were not afraid of Slick's quick wit and their affection towards her was never in doubt. This open exchange is illustrated by a girl's comment upon receipt of an exam, "This is not a test; it's a book!", responded to in kind by a devilish grin from Slick.

The following inventory of samples of dialogue from November, December and January with this class illustrates the high level of student involvement that occurs in teacher-lead discussion of assignments, evaluation instruments or lecture built upon a foundation of challenging questions and continuously relating curriculum to everyday life or careers. The language behaviours counted were on-task and students showed a great deal of respect for each other's ideas and the freedom to share ideas in class. They brought ideas to class that link their classwork to out of class activities and worked enthusiastically in pairs or small groups when Slick was not leading the discussion. Students were relaxed and were treated as responsible adults, in an atmosphere of trust rather than of criticism.

TABLE 1: CLASSROOM VERBAL BEHAVIOUR INVENTORY - FRIENDLY GIANT.

Behaviour:# of Occurences (If by teacher, is entered as a T, boy as B; or girl as G, class as Cls).

1) Assumption of responsibility for mistake or failure.
   2B; 4T
2) Assumption of responsibility for success.
   2B
3) Praise given.
   9T to Cls; 3T to B; 1G to B; 1 Cls to B.
4) Criticism given.
   1T to Cls.
5) Correcting other's answers or behaviour.
   1B to T; 4T to Cls; 1T to B; 1B to B; 1G to B; 1B to Cls.
6) Advice or direction given to others.
   30T to Cls; 5B to T; 1B to G; 2Cls to T; 1T to G; 2G to T; 6B to B.
7) Questions asked of individuals rather than whole class.
   1G; 4T to G; 7T to B; 9G to T; 14B to T; 3G to B.
8) Challenging questions asked.
   1B to Cls; 2T to G; 7B to T; 22T; 2G to T.
9) Talking about science as important to good career or lifestyle.
   6T.

10) Participate or encourage peer group learning or joint problem solving.
    8T to Cls; 3B to B; 2B to Cls; 4 students to T.
11) Encouragement for out of class activities related to science.
    3G; 13T.
12) Relate science curriculum to everyday life/social issues.
    34T; 3G.

The level of respect and consideration for Slick displayed by these students was extended to the student teacher instructing them for part of the term. This young man was welcomed into the department and appeared to be enjoying his practicum. He was exposed to a variety of teaching styles and experiences, including team teaching, which he appeared to appreciate. Staff were most supportive of his efforts, providing resources and their own insights to assist him in the class.

This was not a case of a student teacher assigned to one cooperating teacher, upon whom he was completely reliant. When his practicum was complete, he expressed a wish to stay on here, although he clearly understood that was unlikely.

Students supported each other daily by explaining theory and problems to each other and by working together in pairs or groups to complete labs. They would prepare extra apparatus or lab materials to assist those who were falling behind. They seemed to accept this responsibility without rancour. In this class, they occasionally did bring drinks into the classroom, apparently not a common practice throughout the school. Students did have to be reminded to clean up their lab tables or desks in consideration of those to follow. Students were commonly paired up with classmates or with visiting students when classes were combined, to share assignments or exercises.

Students were invited to come up and have hands-on for all demonstrations. They were enthusiastic about checking out the accuracy of their teacher's work and would point out any errors they could discover. She was receptive of this practice, encouraging them to be critical. When one of Slick's students from another class won a very competitive essay contest on "Medicine in 2026" , Slick read out the work to her classes to give them a model and a goal. Students marked each other's quizzes and were expected to explain the rationale for the answer to each other, before handing assignments in. Students would freely ask if anyone needed help and go over to where they were seated.

Students were responsible for the care of the bountiful collection of plants in this classroom and of the fish. One day several visitors to the room over lunch period carelessly bumped into the fish tank, cracking it and causing a flood. In a matter of hours, students had identified those individuals, and compensation for their damages had been arranged. Being responsible and enforcing the rules were clearly not seen as squealing on each other.

Trust also extended to the relationship of teachers visiting each other's classes. They played an active role, asking or answering questions and supporting each other's comments with examples for the students.

Perceptions of Students

Fifteen students out of Science 10AP volunteered to be interviewed over pop and doughnuts during lunch period on March 4 and April 22, 1994. They were forthright answering questions regarding the teamwork in their school, the communication networks, and the impact that school practice has upon the school community. They all said they wish to complete their high school here and recommend the school to others.

When asked what, if any, collaboration they are aware of between the school staff, parents and the community, they listed involvement in band association, sports clubs and science olympics. Many claimed that their parents talk to the school regularly, come to parent-teacher nights and special events and help them with homework to show their interest in grades and support for involvement in extracurricular activities, such as sports and science olympics or contests.

They said that teamwork amongst teachers, students, and parents gets much more accomplished. Teachers working together is very visible to them and they suggested that in grade 10 some students' marks noticeably changed; some have gone away up because the students never tried in junior high. That teachers mark harder here was a common belief and because they expect more of you, you try to get better marks. They agreed that many of their teachers here are more active in class than in their past schools and felt that makes them a lot better teacher. It was refreshing to hear students claim that the regular attendence they see in their classes is related to the stricter attendence policy and show little resentment of this policy.

Although the strict policy of questioning students in halls during classtime and sending them to class or study hall was a source of some annoyance for two students out of the group, most were very accepting and several suggested that it has effectively cut down on locker thefts and students skipping classes.

Students accurately described the various sources of information available to them and appreciated the amount of useful information provided. Students described sports recruitment as based on steady attendence and commitment. They said not many students can't make the teams. The people who really like sports make time for them and pick them first. This was described as a built-in filter system.

These students were most impressed with the Principal's invitation to them to have a say in how the school should handle the imposed education funding cuts. I sensed that they were flattered and interested in having input into how the school is run. Surprisingly, they felt the 90% attendence policy (backed up by 'extended learning opportunities' of one hour and fifteen minutes for those with a first instance of poor attendence, before parents are brought in or expulsion is considered) is very good and has straightened out some of their friends. They identified the friendly atmosphere as excellent and liked the absence of fighting in the hallways as a result of excellent security. One boy said

> Here it doesn't matter whether we are strong students, we still get treated the same as everyone else. Our teachers know our names and speak to us anywhere. (personal communication, April 22).

Common concerns were discussed by this group and they were pleased that their concerns would be included in this dissertation and thereby brought to the attention of the administration and the Board. They worried that some school sports will no longer be funded by the school next year and believed that parents may be unwilling or unhappy about picking up these costs, on top of the usual expense of community sports involvement. They suspect that numbers involved in school sports clubs may fall off as a result.

Several felt that double periods are too long, causing some students to lose interest or fall asleep. They suggested that these be shortened to a period and a half. There was consensus that all semestered courses are preferable to full year courses because the current combination of full year and semestered courses is a very heavy load and unnecessarily stressful. Minor requests were for more lunch time activities, such as floor hockey and the right to bring a drink into class.

The achievement and pride of these adolescents in their school seems to support the principal's belief that if students are given the right kind of academic and extra-curricular activities that they will strive for excellence and experience success.

Insights and Suggestions from Parents

Interviewed parents identified the school's policy of advising them quickly of their children's attendence or performance problems at school as very valuable. Several mother's suggested that the Perfect Attendence Program with awards was a great idea that made the students feel good about themselves.

Although five of the six parent interviews made mention of the undesirable reputation of this school before the present administration took over, they were happy with the school's approach to education and relationship to the community. They had toured the school and researched the courses available before registering their students.

The hallmark for parents was how well teachers related to students. All commented that staff members go out of their way to show they care and support student's efforts. Several appreciated staff introducing them to other staff and parents. They believed the school and Board should do even more to promote the differences in this school to junior high schools.

Both the involved and uninvolved parents were accurate in their description of information sources from the school and only two families said they had not received personal invitations from the staff to attend special functions at the school. The uninvolved parents shared a belief that their high school students do not require their support as much as younger children, and several feared that their involvement at this level would be resented by their children. I observed that the 'uninvolved parents' were very knowledgeable of the school and were quick to compare the experience of their children here to their own school experiences or to stories shared by parents of children in other high schools. Although they often had no contact with administration or staff beyond their children's teachers, they claimed that they attended special events in which their children were active. All praised both the helpful teaching staff and teacher expectations of homework completion every night and excellent attendence.

Some parents were plainly supportive of the school's efforts and knowledgeable of its agenda, but still refrained from an active role in the school. Several parents suggested "some parents might feel intimidated to approach any school because they don't have a high level of education" (personal communication, Nov.16). Others interviewed felt parents were more involved in their children's education than may be visible at school. This claim was supported by my observations.

Parents appreciated the interest of the school staff in them as parents. One 'uninvolved' parent suggested there are benefits for both the students and parents in this relationship:

> I see positive effects on my son and on us as parents. I'm sure the teachers feel the same way, because they seem to know you as a parent, and they know what kind of people they are dealing with. I know that it is easy to talk to the teacher or school openly, or just go in and see them, although I have never had to go in. They have done something unusual to open communication that is not typical. (personal communication, Nov.30)

One couple, who described themselves as uninvolved, were interested in the benefits to students correlated with parental involvement in research literature, and in the school's desire for more parental input. They knew their son was very happy to have them attend his sporting events. The mother said, "I would like to be more involved and my son would like me to be more involved... but I don't quite know where I fit" (personal communication, Nov.24). They attended the final PAC meeting of the school year and will both be active in leadership roles next year. Perhaps the school could more aggressively pursue the involvement of some of these uninvolved parents to enlarge its volunteer base.

Parents interviewed accepted their responsibility to work with the school for their children's education. Their role was described many times as providing the effort and commitment to get the very best results for their child. The enthusiasm and range of involvement of the group of involved parents was impressive; they support many special events and volunteer for everything from planting flowers to tutoring and paired reading with students to support staff assistance. They frequent the school, know the staff and talk about them on a first name basis. Pride in their children's and the school's contributions to the community was apparent in the activities that they listed; eg. Crimestoppers. Their pride in school results did not solely describe marks or performance but often suggested the need for students to become 'well-rounded people'.

One mother, vociferously opposed to sex or moral education classes being offered without parental involvement in the curriculum, suggested that such courses could be offered on an "opt-in rather than the present opt-out basis as many parents may feel they do an adequate job in this area on their own." She requested more involvement of parents, with teachers providing more feedback on problems with students before they become major. Although she had these comments, she admitted that she was not involved in any way at school except for parent-teacher interviews or in checking with teachers for a son who is struggling. This contradiction in desire and commitment was typical in the research literature on the role of uninvolved parents (Van Ijzendoor & Bus, 1990). In contast to that mother's position, another mother asked why there is a holdup in getting condom machines in the washrooms? Obviously, parents in this community span the spectrum of opinion on the role of the school in moral development of their children.

Another single working mother, who identified herself as uninvolved, claimed that lack of knowledge of the school was worsened by her lack of contact with other parents. By actively recruiting such parents into parent organizations or special events, stronger networks would expand parent commitment to the school. She identified her daughter as really liking the school and being her primary source of information as she does not receive many newsletters. The mother believes the teacher's practice of involving students in many extra-curricular activities related to their subjects, eg. projects, contests and scholarships, is valuable and gives the students an edge for university entrance.

A common observation was how much their children talked about this school and how much they appeared to be enjoying their experience there. All parents identified the relationship between the teachers and their children as very positive; "I think the teacher's treat students as responsible individuals, and this makes them feel good " (personal communication, Nov. 30). One parent described the importance of the school recognizing each student as an individual and attempting to give them the confidence to reach their potential. Another parent, with a special needs student in a local junior high school, suggested that the Friendly Giant's approach recognizes individual differences and is a totally different way to succeed with students who are challenging. She claimed that if a school is going to take on special needs students, they need the trained educators to deal with the special needs as well as racial and cultural differences. She observed that other schools that she has talked to who accept special needs students, do not have the staff or philosophy of this school. She warned that this school's excellence must be recognized and valued by the community, to ensure continuation of special programs in times of cutbacks.

Collaborative Approaches To Integration of Special Needs Students

Like the other schools studied, the friendly giant is eager to share its philosophy and innovative strategies to involve students as members of their school community, rather than as clients of a system. Interviews with teachers, counsellors, resource consultants, aides, parents and administrators, who are members of teams facilitating integration into the mainstream program, identified how they contribute a sense of belonging, integrity and competence for special needs students within the mainstream curriculum.

This school is the district catchment centre for learning disabled students, and offers regular program to those students physically disabled by impairments in mobility, sight, or hearing. Students from the School for the Deaf take courses supported by 2 full-time interpreters. One of the teachers suggested "underachievers are my business" and the effort to create success for a diverse population of students is a central focus.

Each fall, a one-year program (Pilot for Success) is offered as a bridge for two classes of students who have not completed main stream junior high but are of age for senior high. Identified by staff, past achievement in school and by parents as at risk in their first year of high school, these students are prepared for grade 11 by a team of 7 volunteer teachers, including the principal, and 2 aides. These individuals have specializations in English, Reading, Maths, Science, and Personal Living Skills. Due to financial constraints, teachers begin each year overloaded with 30 students in each class.

Some of these students are classified as funded opportunity, some as adaptation students showing developmental delays in some academic areas, some with problems of immaturity or family break up, attention deficit, Tourette's Syndrome, autism, Fetal Alcohol Syndrome, or epilepsy. All share a history of underachievement related to challenges that in the past made them less able to cope with the demands of school.

Each group begins with very basic activities, involving peer tutors for paired reading and for help with assignments in reading 10, personal living skills or their option. In second semester, their core classes are only 40 minutes in length, in contrast to the usual 80 minutes.

Staff involved feel that one of the key elements to their success and participation is that these students are tackling regular high school curriculum; eg. English 13, Social 13, Maths 14 and Science 14. According to Alberta Education's published results, 60-70% of the original class pass in these mainstream courses. These courses lead to a general high school diploma.

For the most challenged of these students, the hope is that the longer they can be involved in their schooling, the better equipped they will be to function as a part of society rather than be a liability to it. Some of the most severely challenged students will continue to have an aide throughout their high school; others will require academic assistance from a special education specialist in a separate classroom using a wide range of computer assisted instruction.

Within this supportive climate, students are helped to face increasing demands for quality, quantity and independence of classwork. Staff deliberately limit controlling interventions, such as checking homework books with parents, in an attempt to have the students plan and be responsible for themselves. Sometimes behaviour that other schools might question or expel students for, is tolerated because retention and development are primary goals. The team and other students work with the presenting behaviour to bring it into acceptable standards. Much effort is spent in eliminating teasing or lack of acceptance for students with poor social skills. These students come up most often in team meetings and case conferences (involving outside support structures available for these students; eg. psychologists, social agencies or counsellors). Staff try not to assume the role of protector; rather peer support is cultivated.

The watchful development of a climate in which giving help is highly valued and hurtful talk or bullying is not tolerated, is essential for student success. Recognition of success in every course as having equal value is another unique element of this school's approach. Doing well in Welding is just as valued by the school community as succeeding in Physics 30. This concept treats any student accomplishment with due respect and also recognizes the contributions and expertise of all staff and team members.

Consistency and predictability of all their educational team is considered essential. Because Pilot students are part of the mainstream program in their options and can move into regular 80 minute classes in core subjects whenever they want to, they know they are 'real high school students' taking the same classes as hundreds of other students and expected to achieve both personal and academic growth. This experience overcomes a history of underachievement for many. They approach grade 11 with an attitude of competency. The team members teach students how to get help; through modelling how and who to ask. The aim is for all students to accept that **everyone has things he/she needs to know but doesn't and that there is no shame in not knowing, only in not trying**.

The Pilot for Success program's high retention rate is only exceeded by core grade 12 subjects, in contradiction of the historically low retention rate of subjects at the 13 or 14 level in other settings. This retention also be attributed to the support given students by highly committed specialists in the subject areas, to peer support, and to the attention given to serving a wide variety of learning styles.

A second level of support available to students is the Academic Assistance program. This program was started to assist learning disabled students but has evolved to include students having learning difficulties or needing a different setting. All students coming to the large welcoming room, replete with computers and a wealth of curriculum software, must be willing to improve their performance.

Through a Special Projects course worth 5 credits, students pursue advocacy, study, test-taking, and social skills to help them in their class work. One to one instruction is provided by a special education specialist in courses from English 13 to Maths 33. Through collaboration with subject specialists, the teacher provides guidance on assignments and the specialist assigns/marks them. Computer assisted programs are available from Maths 13 to 30, and many students come in to use these to complement classroom instruction. Students are also helped to work ahead of their regular classes and may finish a course early or go on to the next level, completing two courses in one semester.

Computer skills are developed to assist those requiring a scribe or facing mechanical difficulties or unsuccessful under time pressures. Through the commitment of peer or parent tutors, the Paired Reading Program serves those students identified as functionally illiterate. The English department identifies students interested in reading and in helping other students. These students are trained in Reading 30, a 5 credit course on how to tutor and do paired reading. They are then matched for the whole semester with a student having reading and writing difficulty. The program is so popular that there are not enough tutors to satisfy all the requests from students and teachers. This program requires volunteer time but no funding and this year even the Science and Maths departments are requesting tutors to assist students with reading-based problems.

Success is evident in the high level of commitment of parents and school staff to supporting students' endeavours in academic, sports or community; in the unusually high retention level with accompanying academic achievement for a diverse population of students facing significant challenges; and in the obvious friendship between these students and their school community. Teachers recognize that the bonus from teaching/learning with each of these special needs students is the development of new skills and knowledge that benefit all of their students.

The Impact of Cutbacks on Special Needs students?

A councillor in the Friendly Giant, with 8 years experience at a Young Offenders Centre (YOC), suggested that our society does not have a place for youngsters until they are 19 or 20 years of age, primarily due to their psycho-social immaturity. He claims this school supports social-emotional as well as academic growth, contributing to development of a **whole person**:

> Schools offer some academic progress and personal success to that population of students expected to achieve only minimal academic progress; impeded by lower IQ, severe learning disabilities, or emotional and behavioural problems. However, recent government cutbacks and changes to the Education Act, demanding completion of courses in order for schools to be paid, necessitate a tighter selection process that will exclude many of the students who need extra nurturing.
>
> Experience suggests these youngsters will face two choices: 1) to work - even though they are not psychologically prepared to work and there are few jobs, or 2) to get into illegal or undesirable activities to support themselves. Many of these youngsters will perceive little choice and will become involved in crimes against homes, property, or person. He expects rising levels of violence and crime in a society becoming increasingly more expensive to

> administer, as educational services are redirected to serve academic excellence, rather than the whole person. (personal communication, June 17)

The frustration and anger felt by many youngsters facing a technologically demanding society without the skills to understand or access its benefits, nor any support network available to them once they are no longer members of their school community, may leave many with a feeling of nothing to lose and to rebel against the unattainable wealth of today's society. This phenomenon is widely reported in the disillusioned youth of Great Britain and large American ghettos. Bob Dylan aptly described this response in the 60's in the song *Like a Rolling Stone*, "If you ain't got nothing, you got nothing to lose."

Do the Ends Justify the Means?

There has been about a 10% reduction in students leaving this school before completing their programs, according to attrition figures kept for central office (personal communication with the Principal, June). The number of students attempting and succeeding at diploma examinations has steadily risen over the last four years, with 83.8% of Sept. 30, 1993 enrollments writing their diplomas and 69.7% passing the exams. It is interesting to note that most of these students started high school with this model in grade 10 (see Table 7 - Students Attempting/Succeeding on Diploma Exams in Appendix F).

The achievement of the class with whom I spent so many interesting hours is reported in Table 2.

TABLE 2

THE FRIENDLY GIANT: SCIENCE 10 AP ACHIEVEMENT

STUDENT	Yr. in SCHOOL	ACHIEVEMENT -*Beginning*	ACHIEVEMENT -Term End	# of Absences
1 M	10	78	70	0
2 F	10	69	82	1
3 M	10	71	67	2
4 M	10	57	82	2
5 M	10	92	80	3
6 M	10	71	85	0
7 F	10	43	72	0
8 M	10	67	74	2
9 F	10	31	66	7
10 F	10	67	78	1
11 F	10	51	51	11
12 M	10	90	82	4
13 F	10	49	51	3
14 F	10	78***	80	5
15 M	10	75	71	2
16 F	10	78	78	5
17 M	10	88	88	2
18 M	10	84	71	0
19 M	10	71	72	0
20 F	10	80	87	5

* indicates % scored on Gr. 9 District Achievement Test in Science

*** indicates score on first unit exam as student is from out of district.

Although this was classified as an Advanced Placement class, student marks on the District Achievement Test varied widely and were NOT the basis for selection. Invitation to these students was based upon their 3rd report card grade and recommendation of their gr.9 teacher. Note the overall excellent attendence record of these students. The one exception was a girl whose mother is going through a traumatic time and often kept her daughter home for support.

The sentiment expressed by Slick and others who have scrutinized these results, is that the confidence of teachers and administration to place these students in this enriched science program was deserved. These results are evidence that adolescents will work to meet clear expectations if they are treated fairly and understand the rationale for those expectations. These students worked to prove to themselves, their parents and their teachers that they are capable. When roaming the halls, I observe a relaxed and happy community, with teenagers focused on the process of becoming somebody.

The intrusion of the phone ringing as part of the Red Alert System or the immediate accessibility of Slick to other staff's inquiries occasionally interrupted the flow of ideas and activities in the classroom. It seemed a cost that no one but me, unaccustomed to a phone ringing in classrooms of my past, seemed to mind. Students would read ahead or talk softly as Slick attended to the interruption. Teachers and other support staff would occasionally wander into the class, asking questions or commenting on what was taking place. This relaxed relationship seemed to include students as they also would drop in, wait for a break in the traditional lecture format typical of core curriculum at this level, then ask for materials or information.

A belief expressed by many staff was in growth through sharing. This philosophy was expressed by a new Science department member. "I've asked other teachers and they have taught me more about survival techniques or classroom management, than any other source; especially University" (personal communication, May 4). Recognition and appreciation of individual efforts and excellence seemed to be a source of pride amongst staff, not a source of resentment or competition. Just as immediate attention was paid to student accomplishments in daily announcements and Bulletins, staff also shared their accomplishments with each other and students.

Making available generous amounts of time and energy also extended to the partners associated with the school. Community professionals offered three hour time slots in which interested students could shadow them and discuss their careers. This offer was enthusiastically received by students and their parents with only one unsatisfactory experience for a young girl in which the surgeon she was to shadow neither showed up to meet her nor called. This shy young girl did not tell the school staff, only her mother, who shared her disappointment with me in an interview. This mother requested that better feedback channels be provided to find out how successful these experiences are for both partners. I advised Slick of this incident and the follow-up from future work shadowing is to be improved.

The principal suggested that in the four years this model has been in place, only two teachers have left because they were unhappy with the school's philosophy. A 12-15% turnover with retirements is the goal to allow for infusion of new ideas and others going on to promotions. She claims there has been a deliberate attempt to balance the genders amongst the staff, with the result of gentling out the school and providing more female role models to students (personal communication, May 5).

A Maths teacher suggested that

> most teachers like the determined capable style of this principal and for some of those who leave it may partly be for that reason. Some of the turnover in the last four years has been teachers looking for brighter kids. Our kids are great and a challenge to teach because many are weaker academically (personal communication, Feb. 9).

When questioned on whether this administration and collaborating adults are tolerant of staff members who don't participate or take advantage of the collaborative resources, an anonymous staff member gave a typical response:

> We're tolerant because they make contributions elsewhere; for example if not in a Science team, they may coach. One such fellow scouts for our teams. Another man makes minimal contribution and as a result of this, he is frozen out of the group. You are not so welcome, your performance is more critically judged and your opinion is less valued. This is all subtle, but he knows it. This makes him angry. He is unhappy. He makes sure not to work too hard and tries to influence others, but in this kind of school, it is really hard to be influenced negatively. Most of these teachers preceded this administration and rose to their demands. Those who are not team players are not in any way reprimanded or disciplined. (personal communication, May 4)

For the student population incoming this fall, the selection process will restrict entry of students who have past records of poor attendence or behaviour in other schools. The Counselling Department will advise them of why they are unlikely to be successful here and suggest alternative institutions that might be more appropriate.

It is typical of this setting that control over non-conformists has its effectiveness through peer pressure rather than from official policy. This same response was evident in students who would pressure someone not keeping step with the group to conform to expectations. Throughout this community, concensus and pursuit of common goals is the aim. Those who can not or do not wish to share this perspective will clearly become uncomfortable and move to another setting. This unwritten practice eliminates those who would be a deterrent to acheiving the school's objectives, by putting them in a position of voluntarily leaving without blemishing their record.

In sum, this school has made important strides towards reducing anxiety amongst staff by sharing the responsibility and knowledge of budget cutbacks and jointly designing and implementing strategies to meet these losses in funding while protecting jobs. The spirit of standing together in the face of adversity shared by staff and parents in this school has accentuated their commitment to each other and respect for the efforts and contributions of individuals. The positive public image and volunteer extracurricular hours shared by staff and parents attracts more students and parents to this school and reinforces belief in the model for the collaborators.

Chapter 5

The Teddy Bear School

This small school, enlarged by several portables, has 15 teachers, 3 part-time aides, a part-time councillor, a principal, vice-principal, a secretary, and a librarian. They care for about 330 students from a community spanning the spectrum of ethnicity and socio-economic class. School staff, having observed registration forms that describe many demographic features of the student population, suggested that large number of these families have two parents working and single parent families are common. Several staff members attributed the increasing number of behaviour problems that they witness in their classes to the economic downturn accompanying a rise in the lower socio-economic population in this community. Whether this belief is statistically supported is unclear.

The ethos of the school is loving, both in caring for the children and for each other. When you enter the school, you are immediately greeted by a cheerful secretary. The counsellor described her as "fabulous because she treats everyone from superintendent to student exactly the same" (personal communication, Oct. 21). Each day in classrooms begins with a prayer that involves all voices in the room. If anyone has someone that they would like to pray for they say so and the whole class participates. This activity is intended to draw the children to an awareness of faith and to set the mood for a quiet time in which they are encouraged to think about their thoughts and feelings.

Children speak out freely during lessons and question anything that captures their interest. Their voices and excitement are often focused into singing and short periods of exercise or dance to act out themes studied. Generally there was little time required to settle them down for a story or short lesson after these periods of energy discharge. However, this exhilarating process of interacting with little children in pursuit of ideas they relished, often left me exhausted and amazed that their teachers could maintain this energy level throughout their professional lives.

Sharing the Experience

I was invited to share the classroom of grade one and two children by their effervescent and instantly likeable teacher, Gemini. With her blessing, I approached the principal for permission to observe and interview participants in this school throughout the year. Although he was initially somewhat reserved about the venture, the enthusiasm shown by this respected teacher toward the research project gained my access to the school.

Gemini has four years of university training (a Bachelor of Education degree in Early Childhood) and 30 years of teaching. She continues to take leadership courses, in hopes of entering the leadership pool for this Board. She demonstrates formidable knowledge of children and ability to plan exciting curricula for her little ones. Her personal responsibilities include supervision of the playground for 30-45 minutes before school, intramural supervision at lunch for one half hour, and recess supervision once a week. Gemini planned one celebration and helped with 15 others. Similar responsibilities fall to other teachers. She plans professional development activities with other staff and is an active part of the social life in school, always ready with a joke or story to lift the spirits.

On first speaking to them, some staff members felt they knew little that might inform the research. As they came to know my involvement in the school and better understood that I was trying to share their experience, strategies and advice with others who may attempt transforming their schools into a collaborative community, almost everyone approached was generous with their thoughts and helped beyond my expectations.

The ready availability of parents in the school meant that not only did I get to know the expectations, impressions and knowledge of collaboration within the school from the selected involved and uninvolved parents interviewed but also from many more with whom I shared time in the classroom or hallways. Many parents believed that schooling for their children is a much richer experience than the one they had weathered. My abundant exposure to parental perceptions in and out of school convinced me of their commitment to their childrens' education and to the school.

The extent to which this sharing of the unwritten mission of the school and the active participation by large numbers of parents was driven by their religious faith or by their concern for providing the very best of support for young children venturing into one of society's most influential institutions, could not be distinguished. In at least half of the interviews, the impact of the Catholic faith was raised as supporting a collaborative role for all adult school participants.

Collaboration in the Classroom

Gemini planned her timetable around the availability of aides and believed in integrating social studies, science and language arts. She used the inquiry process to define a lesson, discover resources and materials, and develop alternative solutions that the children could test and evaluate. She had considerable freedom to stay on a project for many consecutive periods while the children were enthralled or until it was finished.

The philosophy was: if they are really interested, why put it away? She believed in taking advantage of her math and language arts aides' talents in other subject areas. Every project involved writing and art to some degree. Her seemingly endless supply of amusing and adventuresome books, stories and music meant that children were never 'killing time', but always working on their projects or themes so they could have time for the next activity. The aphorism, "success is a journey, not a destination" described the dynamics of this classroom.

The charm of helping these young girls and boys with science experiments, analysis, and reporting of results and observations from a wealth of resources brought to class by Gemini, aides, other staff or from home, meant that my plan to stay with the class for one 'period' each day in the school, quickly evaporated. I generally spent hours at a time with them, learning a great deal about how a master teacher implements cooperative learning strategies and shows children how to take control over their learning. I watched them become active producers rather than passive recipients of knowledge.

Even children discernably challenged within the class, became active members of their cooperative groups, contributing in valued ways to the the whole group. The joy on the faces of parents and grandparents picking up these excited and happy children at lunch or after school was convincing evidence that all students must be included as valued members of a school community, regardless of perceptible differences and mental or physical challenges they face.

Emphasis on the development of pro-social and communication skills and of independent thought resulted in 5, 6, and 7 year olds learning how to solve conflicts on the playground, handle responsibilities at home and work in a group with other children to complete amazingly sophisticated science tasks and to ponder life in other times. A senior professor joined the class with me one day and was equally enchanted by what he saw.

I was routinely awed by the good humour and patience displayed by Gemini as she let the groups struggle with ideas and problems until the projects guided them into new solutions. The children loved their teacher, were quick to answer calls for control or help and displayed impressive understanding of the give and take required when learning from group efforts. Although the members at each table were regularly rotated, their skills in group process resulted in little strife and strong support for each other.

The interest and affinity for working as teams on tasks that captured their imagination, convinced me that it is not foreign to children to share thoughts, feelings and personal resources in pursuit of common goals. It appeared to be a natural process, learned efficiently when appropriate guidance is provided by adults. Throughout the year, the children became skilful at listening to each other and to their teacher and incorporating the perceptions of others into their own work. Gemini and I observed one day that often the thoughtfulness and sophistication of their answers and work made it difficult to distinguish who was in grade one or in grade two. Rather than reducing the calibre to a homogeneous lowest common denominator, their writing, dialogue and art was rich and diverse reflecting the individuality they were learning to discover and respect.

While listening to the happy and excited children focused on captivating stories and experiments shared every day with Gemini, it was easy to believe that this is how to enthrall learners with the magic of science and life. Seldom was a child spoken to sharply; misbehaviours were chastised but not the personality of the culprit. Although the active and inattentive child who would try the patience of a saint was the source of much correcting and calling to focus, the class was very cohesive and worked together with enthusiasm and perseverance beyond my expectations for young children. This inventory of talk illustrates what a noisy and busy place this classroom was. It also demonstrates how often students encouraged each other or their teacher to work together and think about their world in new ways.

TABLE 3: Verbal Behaviour Inventory - grade one/two Teddy Bear.

Behaviour:# of Occurences (If by teacher, is entered as a T, boy as B; girl as G).

1) Assumption of responsibility for mistake or failure.

1T; 1B.

2) Assumption of responsibility for success.

2G to T; 2G; 1B; 3Cls to T.

3) Praise given.

5T to B; 7T to Cls; 1Cls to Cls; 4T to G.

4) Criticism given.

2T to G; 3T to student; 5T to B; 1 aide to B.

5) Correcting other's answers or behaviour.

1B to G; 1G to T; 1B to T; 11T to G; 9T to Cls; 27T to B.

6) Advice or direction given to others.

1G to T; 21T to Cls; 1G to B; 4T to G; 9T to B; 4B to B; 2G to G.

7) Questions asked of individuals rather than whole class.

6T; 6T to B; 4T to G; 3G to T; 1G to G; 1B to B; 1B to T.

8) Challenging questions asked.

2B to T; 10T to Cls; 4G to T; 1B to G; 1G; 1T to G.

9) Talking about science as important to good career or lifestyle.

1T.

10) Participate or encourage peer group learning or joint problem solving.

2T to B; 10T; 7G; 9B; 4G to T.

11) Encouragement for out of class activities related to science.

4T to Cls.

12) Relate science curriculum to everyday life/social issues.

11T; 1G; 3B.

Behaviour problems were not the burden of the teacher alone. Misbehaviour was not tolerated by other children, who not only informed on the conduct to all in hearing distance, but also put substantial pressure on the offender to stop the disruption. One ongoing prank was played by mischievous twin boys who attempted to confuse the adults as to their identity. Gemini and whoever was in helping that day had only to be patient for a moment and someone in their group would eventually divulge their secret. As a result of this dependence on the children, I confess that I never did become successful at distinguishing between these identical cherubs.

Student Progress

The following table reports attendance and academic progress of these students, indicating their entry grade level and grade level of achievement at term end. Attendance for all students but #13 and #17, was regular and absences were reported to be due to illness. Student #13 and #17 were excellent students and were excused for a short family holiday and to share in the birth of a baby brother, respectively.

Often children came to school not feeling well, rather than miss out on activities. The only child to attend daycare was #11; who regularly was sent to school regardless of how ill he was, because the daycare will not accept a sick child and his parents would make no alternate plans.

TABLE 4: TEDDY BEAR SCHOOL - STUDENT ACHIEVEMENT.

B = beginning grade level; M = mid grade level;
E = end of grade level

STUDENT	Yr. in SCHOOL##	ACHIEVEMENT-Beginning	ACHIEVEMENT -Term End	# of Absences
1 F	K + 1	1 - B	2 - B	5.5
2 M	K + 1	K - E	1 - M	4.
3 M	K + 1	K - E	1 - M	.5
4 M	2K + 1	1 - B	2 - B	2.5
5 F	K + 1	1 - B	2 - B	3.5
6 F	K + 1	1 - M	3 - B	6.
7 F	K + 1	1 - M	2 - M	1.5
8 F	K + 1	1 - B	2 - B	2.
9 F	K + 1	K - E	1 - M	3.5
10 M	K + 1	K - E	1 - E	8.5
11 F	K + 1	K - E	1 - M	1.5
12 M	K + 1	1 - B	2 - M	10.
13 M	K + 1	1 - M	3 - B	6.5
14 F	K + 1	K - E	1 - M	3.0
15 M	K + 1	K - M	1- B Repeat	5.5
16 F	K + 2	1 - M	*** 2 - B	2.5
17 M	K + 2	2 - M	3 - E	10.
18 F	K + 2	2 - M	3 - E	.5
19 F	K + 2	1 - B	1 - E	2.
20 F	K + 2	2 - B	3 - B	8.5
21 F	K + 2	2 - B	3 - M	3.
22 M	**K + 3	1 - M	3 - B	4.5
23 F	K + 2	2 - B	3 - M	.5

NOTE:
Indicates child attended Kindergarten (for how many years) + present year of primary education.
** Student has repeated Gr. 1.
*** Retention recommended but parents refused.

Twenty-one of these students will move on to a grade two/three split with the same teacher in the next year. Several others moved away from this district.

Sharing the Power: Reality or Myth?

Candour and openness epitomize staff relations and even reserved staff speak up at staff meetings. The staff interviewed felt this atmosphere contributes to greater learning and fewer discipline problems for the children. One staff member described changes that have occurred in the school since the blending of home, school, church and community was catalyzed by the arrival of this principal in March of 1992. He suggested the experience has restored his belief in people and described some of its benefits.

> The childrens' behaviour and academic achievement has improved - more so with the students of teachers committed to the collaborative approach. I think this school has become a happier workplace for the staff. Strong bonds and a casual atmosphere make it much easier to come to work in the morning.(personal communication, March 3)

The principal was candid in sharing information and decisions from central office (on budget numbers, staffing, strategic and site management) with staff and the parent advisory groups. The parent advisory group president was in the school often and at least one member of the parent group met with the principal each week.

Since funding was tightly controlled from Central Administration, the school had no significant input into staffing decisions or into how much money they would receive, beyond their own volunteer fundraising activities. Power sharing occurred in decisions that were site-controlled, such as community liaison, extracurricular activities, student performance monitoring and professional development. The administrators asked for input at parent meetings and in the newsletter they sent home each month. The students had no access to decision making, but were a tremendous resource in helping in the office or giving assistance to children having lunch in their classrooms.

A desire for more joint planning of curriculum and professional development was expressed by staff and administration. As one teacher suggested,

> except for our marvellous celebrations, we don't do many school-wide collaborative projects. But after Easter, we plan a school-wide science project to get all the teachers knowing that science is not intimidating to teach and also to acquaint us with the new science curriculum (personal communication, Mar.25).

Although the school made a real effort to find funds for teachers to attend inservices at no cost to them, the sharing of information back to the staff was not compulsory and generally only provided by a few staff. The principal's weekly staff bulletin advised who is attending what event, of upcoming inservices and of special events in the parish, community or school.

The principal's desire to be seen as considerate of those who feel nervous or reticent to share their experience may have resulted in some staff regularly sharing information and providing leadership in planning or development activities, while others contributed little. His democratic approach allowed some less collaborative to 'opt out' of responsibility for professional development. This situation created negative undercurrents amongst the staff and reduced involvement of individuals who tire of giving of their time when others do not.

Staff all turn out to staff meetings, planned for twice a month, and to a professional development(PD) meeting once a month. Staff were not too excited about these meetings, as they may go on for several hours, but all knew there were important issues to discuss. A fourth PD meeting desired by administration may not happen as this time midyear may be used for appointments outside of school. Some issues receiving attention were how to improve teamwork and build stronger parent-school connections.

Expectations Convey Responsibilities

An administrator recognized that there are many small things that administration can do to build trust and commitment. He suggested giving encouragement to the teachers, having office staff and administration set examples of collaboration for teachers, providing an extra prep for a job well done and developing good communication between teachers and administration. He stated, "Once you have trust, difficult school decisions can be approached by the school, as a team, to find solutions" (personal communication, Mar.2).

An example of how the staff supported each other in the face of crisis occurred with some young contract staff this winter. When the teachers of the Separate School Board voted to turn down their Board's rollback offer, committing the schools to losing 85 novice teachers on April 1, the conversation in the staffroom was very bitter toward the Board but very supportive of those threatened by the decision. No school nor system solution was forthcoming to prevent three young teachers from losing their jobs in Teddy Bear school at term end (inspite of the teachers' capitulating to the salary rollback), but support for each other remained high.

Although parental involvement in resolving student problems was welcomed by staff, parental hesitance to share responsibility for helping their children overcome problems in school was a source of consternation. Lack of cooperation was typical of the uninvolved parents interviewed in this school. Their lack of involvement posed an obstacle to overcoming behaviour problems, in getting assistance for the children from consultants or agencies, and in providing a predictable safe environment for positive learning experiences for all students.

Staff addressed this problem together. The teachers of children having difficulties meet with the administration, special needs teachers, and counsellors to discuss approaches that might be taken. The parents are invited to share in this case conference and to jointly develop strategies into their relationships with their child.

What If Parents Resist Collaboration In Education?

Parental failure to engage with the school in their child's education occurred on several occasions in the class observed. Although a small boy was clearly a problem for the class because of what seemed to be chronic misbehaviour, his parents resisted becoming involved or supporting the school's strategies to confront the misbehaviour. I shared the frustration of the teacher, aides and students in this situation. The reality of having this child, who was destructive and created problems at every opportunity, in the cooperative groups was that an adult must be close to him almost continuously. This taxed the energy of the adults working with all of the children.

Although the other children willingly engaged in trying to help this student to behave, he often had to be sent to the 'time-out' area to consider his behaviour. If he would not settle there, he was taken off to the office under the watchful eye of the secretary or administrators. Although this last ditch routine of removing him to keep the class harmonious certainly did not improve the behaviour or knowledge of this child, no other ready solution was available, as neither parent would assist the school by coming into class nor by taking him home.

This extremely disruptive behaviour in an inclusive classroom is unable to be physically managed while providing a satisfactory learning experience for all of the students unless greater support is provided to the class. By March, it became apparent that badly needed help was not in sight through the usual channels of consultants and external resources for assessment.

After urging from Gemini and the principal, I requested help for this child from a renowned psychologist at the university. He immediately arranged assessment and a report was provided for school and parents. This report gave suggestions for help agencies and strategies to engage this child more productively. Although he was an alert, quick thinking child, his lack of attention and perseverance caused him to fall behind his classmates.(see student #11 in Table 3). It is hoped that the psychologist's suggestions will guide a more appropriate placement for this child and help him to improve his achievement. There is the concern that, as occurred in this class, his parents will not become engaged as required to support his intellectual and social development. As an 'at-risk' child he may become one of the victims to human services' cutbacks.

Experience with this process at the school defined the strength of commitment that Gemini and other staff involved, had to providing this child a more appropriate experience. In the face of parental anger and rejection of school efforts, it also demonstrated staff support for each other.

When I interviewed this mother for the first time, she clearly believed there was a medical explanation for her child's conduct and that a medical solution was needed, inspite of lack of any evidence to support this claim. Her perception of the staff's efforts for her child was positive in both interviews, in contrast to her vitriolic response towards staff in the case conference following the psychological evaluation. The parents resisted the assessment findings and directions for several months.

Part of the frustration for all staff concerned at term end resulted from the parents' blaming the teacher and pleading poor communication with the school. Documented records of all communication between home and school and an unwillingness for the school counsellor to listen to baseless recriminations, apparently finally convinced the parents to pursue the course of studies recommended. Complete records and ongoing communication with parents may be the key to engaging reticent parents in other situations as well.

Final authority rested with the parents and not the collaborating team at school. This inability to engage the parents as team members appears to be a weakness in meeting the needs of students in elementary and junior high school as suggested by both the research literature (Carnegie Council, 1989), and by my observations. The school could share information with parents, recommend counselling or even avail the services of an outside expert, but felt powerless to effect change in parents beyond what those individuals felt comfortable with. Submitting to this powerless state without other collaborative solutions reduced staff to a 'we've done all we can' attitude and generated realistic fears for the future of this child.

Family Insecurity and Impact at School

In the face of job layoffs and economic downturn there is future insecurity that even the expert economists are incapable of predicting with any degree of accuracy. This insecurity is inducing rising family tensions. The staff were very aware of the impact these tensions were having on their students and their families. Illness and other absence of a child or staff member were discussed as related to this negative environment. Inattention in class, behavioural problems or truancy of students were often explained to me as being the consequence of tensions at home and inadequate parental coping skills.

Students and their families were regarded as a part of the school community and staff were eager to extend a helping hand to families facing difficulty. Teacher contact with families and interest in the lives of their students challenges Hilliard's (1992) findings that teachers often fail to recognize family tensions affecting their students. Their window into the lives of the children engendered sympathy and a desire to reduce the pressures on them while providing a rewarding, supportive environment at school.

Integration of Special Needs Students

Twelve special needs students were integrated according to the individual adjustment of each child to the regular classroom. Pull-out support was provided by aides, reading resource instructors and parents for reading, pro-social skills or behaviour problems. The program of studies was closely followed and if children were at a developmental level that makes it impossible for them to be successful in the regular class in a subject, a specialist worked with them on a one to one basis,(e.g., literacy). Their program was kept as close to their peers as possible.

A problem solving team of five staff selected priorities and planned programs for these students with ongoing consultation with their families, where possible. Cooperative learning strategies were used in all classes to bolster those falling behind and friendships were strong within the groups. Timetabling was flexible and responsive to the daily experiences within the school. Teachers adapt their planning to what is clearly working for the children. The children were accustomed to parents, aides and consultants coming into their classes and immediately looked on them as a resource to be involved in their work. Tiny hands pulling you to their table was normal, accompanied by an endless stream of questions. Gemini would often mutter at breaks about all these demands but it was clear she wouldn't be anywhere else!

Staff claim early assessment and attention to special needs of students contributes to the smooth running of inclusive classes with some children facing learning or social challenges clearly growing in ability and confidence. One comment that made me question the depth of the collaborative approach was from the resource facilitator,

> The enrichment program arose from parent desire. Parents talk with administration and request it. We choose how, when, who is involved. Here our parents are mostly working parents and are not steering the ship. (personal communication, Mar.16)

If by steering the ship, this individual was suggesting that parents do not have any meaningful input beyond their time to help their children at home or as volunteers in the classroom, I sensed a resistance to engaging parents as broader resources. This raised the question of how willing are school staff to share their authority and expertise with parents.

Sharing Responsibility

Leadership in collaboration is not an oxymoron. In spite of staff requests for more modelling of teamwork, leadership in this area appeared to be generally left to the Principal and Vice-Principal. They provided yeoman's duties packing and physically organizing the school's celebrations and special events. They took over classes half-days for teachers to free some planning and sharing at the same grade level or by subject area. They expressed a personal commitment to increasing the joint planning, leadership and professional development roles of teachers. Most of the teachers were women while the administrators were men. Was this tendency to leave control, and much of the work associated, to administration related to resistance on the part of some entrenched long term staff or to particular personalities or perhaps to gender? It is not possible to be certain of the interaction of these factors, but I suspect all had impact.

Several staff members suggested that administration needs to take a stronger stand and engage hesitant staff in chairing meetings or professional or curriculum development. Can enforced collaboration hope to succeed? Will the sharing of responsibility for many daily functions in the school that were primarily managed by administrators in the past be seen as just added workload by staff or as an opportunity to improve the working and learning environment for everyone? I did not discover the answers to these questions here but realize that it is imperative for the school community to address these issues.

Staff interviewed believed that it is very important for office staff and administration to set an example of teamwork and power sharing if the teachers are being encouraged to do the same. This process of negotiation is underway but a downfall to date is the failure to involve the janitor and clerical staff in the process. A staff member identified the dilemma that those without power in a school face if they try to change relationships or policy:

> I believe that ideas for change toward collaboration have to come from the top - if a teacher or other staff member were to suggest them, some of these ideas might not be encouraged. Also, when senior administrators and school board members do things like cut salaries, benefits and terminate or cut teaching positions, at the same time that there is a $3.9 million surplus in the Board's funds, it is not conducive to creating a collaborative climate.(personal communication, March 2)

Administration recognized that not every staff member is on board in terms of commitment to teamwork and shared responsibility (See Figure 2; p.54). Administrators and teachers understood that the personnel changes required to gather a staff sharing both the crucial philosophy and skills to build functional partnerships with parents and community are presently impeded or even put on hold by the current cutbacks and lack of security for those in the school community. Teachers who might request a transfer in a more stable economic climate are hanging on to their positions and this leaves no openings available for teachers who wish to work in a collaborative setting to get a position here.

It is my observation that staff require trust in those they work with and freedom from recrimination if they are going to make major changes in their conduct and responsibilities. The staff believed they show a lot of respect for different teaching styles and tolerate those who do not like to work closely with others. One staff member described a development day away from the school in which staff shared stories of people who had influenced them, as a beautiful experience. He felt this emotional exchange strengthened bonds among the staff, as well as getting them away from their work. If developing trust is integral to a collaborative climate at school, such experiences are an important strategy that should be pursued.

Staff appeared comfortable with each other and shared resources and ideas freely but may understandably be hesitant to deviate from routines that have resulted in their past positive evaluations. Regardless of whether administrators and some staff are committed to expanding the powersharing between school, parish community and home, this means sharing the workload with interested volunteers. For many staff, it also exposes their time, energy and resources to as yet unclear demands. Perhaps many fear the risk as well as the work necessary to develop a mission statement and collaborative strategies for teaching and interacting with parents.

Time and negotiation are critical to working out the quirks in human relationships if a team approach is to be successful in a school where Central Administration still controls job security through staffing and allotment of school budget. One staff member observed,

> It is difficult for some who have been teaching for a long time to change. They are set in their own ways and believe that what they are doing is good enough. Some take advantage of the half-days off for planning and then go back to their previous approach behind their closed classroom doors.(personal communication, Mar.2)

An Outstretched Hand: Communication with the Home

In spite of the last observation, closed doors anywhere in this school, except for the gym, were unusual. The open door policy means parents, administrators, resource people and councillors can visit classrooms and share problem solving ideas any time. Parents routinely drop in to watch their childrens' classes or to help out. Parent volunteers work in the library, plan and assist with all special events and fund raisers, and volunteer in the classroom for paired reading, supervision and material preparation. Staff noted that the number of volunteer parents is declining, likely due to so many mothers working. The school also shares its resources with the surrounding community.

A high level of community involvement is encouraged as the school provides its facilities for local youth organizations and for youth, parent and community sports. Support is given to parents that are identified by staff as 'in need'. The support includes everything from financial help and food hampers to family counselling. The school provides financial help to at least five local charitable organizations, including local shelters for battered women and their children.

Social events during the day are celebrations of student work and tied tightly to the Catholic faith. Dances and family fun nights include the whole family and school community, with a tremendous turnout in response to the efforts of the parent phone committee. Kindergarten students and their families are included in all school programs and activities.

The school's focus on community liaison was highly valued by those interviewed. In five of six parent interviews, one or both parents identified a growing need for parents and community to take an active role in their school. This stance was also held by a wider sample of Alberta society as demonstrated by the findings of a Provincial Task Force on Education released on August 19, 1994. A majority of the 1000 parents interviewed wanted to be actively involved in their childrens' education but did not see themselves as wanting control (Canadian Broadcasting Corporation newscast, August 19).

Involved parents interviewed were aware of the ways in which this school reaches out to the community. They read the newsletters sent home for special events, and looked forward to the Friday envelopes used by teachers to keep the parents aware of their children's progress and assignments. Response to all newsletters was encouraged by a 'bring-back' portion that the student returned to enter into a raffle.

The principal's commitment to a team approach to caring for children and their education demanded many hours each day. He phoned parents each evening to advise them of intellectual or social problems that their children were experiencing at school, attempting to set up case conferences with staff and parents to resolve the situation.

The unwritten protocol was that the whole staff is advised of parents coming in, so they can be available to see them immediately, if requested. The councillor claimed that this immediate attention from secretary, councillor, administrators and teachers involved with the student often defused potentially difficult situations by providing valuable information to the parent (personal communication, Oct.21).

Parents interviewed admired staff efforts and spoke affectionately of their relationship with the students and families. Their appreciation was demonstrated on one occasion when the staff wished to go out for lunch together. Fifteen parents volunteered to cover all classroom supervision.

The warmth and open door policy of this staff have quickly developed community support in spite of the effects of tough economic times. The principal proudly described the findings of a recent system wide survey which indicated the high regard the community has for this school. Many thoughtful suggestions were offered by parents as to how the collaborative stance could be enhanced to produce greater benefits.

Insights and Suggestions from Parents

Parents stressed how valuable the monthly newsletter, the weekly progress reports by phone from the teacher, and the personal attention their children received from school staff and volunteers, were to helping them be involved in their children's education. They felt encouraged to be in the school as much as possible. This welcome has garnered the active involvement of a large number of parents and community members.

One mother suggested that the school must not give up on its efforts to get parents involved and that both the school and Board should listen to the parents as they have much to offer and can help to reduce the workload for teachers. Many emphasized the obvious pride and pleasure their children enjoy when their parents are in their school. Parents and staff were proud of the input of active parents advisory groups into the daily functioning of the school.

Parents clearly believed they were being heard, helping this school to attain its goal of achieving excellence through sharing a common vision, similar beliefs, and the Christian tradition. Several parents observed that other schools are watching what is happening here closely, as they attend many of the special events and hear good things about this school.

Many interviewed parents had long term experience with this school as their whole families had passed through its doors. These experienced voices described the important differences they have seen in the school's development and attributed the collaborative approach the staff has adopted, to the stance of the new administration. In every discussion with parents, the active role of these administrators in teaching and extracurricular activities, which allows them to get to know all the students, was held as an example of how the school has flourished.

Another example of the willingness of the staff to involve parents in their students' schoolwork was the demonstration of all activities pursued during the term by the children of each class to their parents at parent-teacher interviews. This effort was applauded as providing a hands-on experience of the program to parents and a realistic view of their student's progress.

Parents respected the unstructured classrooms and significant role given to older children as buddies to help younger children. Several parents commented that supervisory help from the older children at lunch meant that they did not have to pay for a lunch program, unlike other schools. Parents in the school thought the buddy system helped the staff, as well as teaching responsibility and creating friendships amongst the age groups. Several expressed a wish for greater commitment from parents at the grade six and kindergarten level. As one mother suggested,

> Only one-half of education can occur at schools, the rest is in the home. If Parents are not doing their half, then God help that child. (personal communication, Nov.15)

A core of 40 - 50 parents could always be depended upon to volunteer for school activities. With a caring workforce of this size in a small school, it is no wonder that special events were so successful this year.

Uninvolved parents often described themselves as wishing they had greater involvement at school. All said they did read the newsletters, and monitored their childrens' homework and free-reading. They said parents must become more involved in schooling in order to support the teachers and to be informed about what is happening with their children.

Based on the interviews, the potential for further involvement of those less involved parents seemed excellent. If the school can get parents to commit their time or ideas to work with staff and other parents in hands-on activities for their children, they are likely to become hooked by the resulting excitement and appreciation shown.

One professional woman from a visible minority group suggested that the Board should pay more and earlier attention to curriculum and school practice that would reduce discrimination on the playground. She suggested that while kindergarten and grade ones are being taught to respect and accept their teacher, the lesson must also be taught to respect and value each other.

> No matter how well you try to prepare your child, the first time they are called names, it really hurts. (personal communication, Nov. 15)

Based on her own school experience, she also recommended the adoption of school uniforms, which she believed helps to reduce class discrimination and school thefts. I suspect that this issue would certainly engender a hot debate in such a diverse population.

Opportunities for Development

A five year growth plan is in the works and any interested staff are welcome to contribute. The need for a mission statement is to be satisfied this fall. Confident and outspoken teachers like Gemini, appreciate such opportunities and are quick to offer ideas.

I observed that staff are an under-utilized resource in this school. They displayed talents in class and ideas for resources for children that suggests that they have wider capabilities than are being engaged. In 1993, Gemini was honoured by an Excellence in Teaching Award and also declined for consideration for the leadership program. Although she believes administrators keep in touch with the school and curricula through teaching, she has not yet been considered for this professional advancement.

Building from the talents of the staff celebrates their contribution and encourages others to follow their example. Getting a new grade six teacher to establish a literature-based language learning program meant avoiding imitation or picking up bad habits from existing routines, while an exciting, long-lasting program is instituted.

Another example of innovative ways to engage staff talents for the good of many was bird house building in the evenings, led by the vice-principal, a grade six teacher, a community member (who was expert in building the kits), parents, and a teacher from another school who is an environmentalist. Not only the children savoured this activity.

Timetabling can be a strife producing activity in many schools and often this duty is assumed by administration to reduce the problems created by trying to accommodate requests from the teachers and decide priorities without suggestion of favouritism. This year, administration approached the grade one and two teachers to find out when they wanted to have physical education classes, instead of the easier tradition of having the grades four, five and six choose their time first. This was intended to remedy the observation of the primary teachers that the higher grades always got first choice and they got leftovers. This small consideration improved the attitude of the primary teachers and gave them better access to the decision making process.

Administration shares all evaluation duties with senior staff through a mentorship program. New teachers are paired by grade with an experienced teacher and guided by that mentor through the school term and evaluation process. The administration provide collaborative planning time for grade level teachers by taking their classes on a scheduled rotation or arranging substitutes where necessary if teachers want to attend inservices, conferences or if further joint planning is needed. All professional development opportunities that occur during classtime, that are chosen by teachers from a monthly bulletin are covered by the administration or substitutes.

In response to budget cuts to education by the Conservative government, the Separate School Board has eliminated all professional development days and two half days reserved for parent-teacher interviews in 1994-95. The number of minutes of classtime per school week has been reduced by Alberta Education, which would have resulted in the shortening of each school day. This staff decided to lengthen each day by 10 minutes and use this accumulated time, which would be their own, to pursue professional development in their interests and for staff meetings. This resilience is only a glimpse of the collaborative spirit which I suspect is brewing. If this spirit can be called upon, it may be an unstoppable force to transform this school into a fully collaborative setting, able to utilize all its resources.

The calendar of professional development topics and inservices is very full and committed teachers will take advantage of this school's offer. Rewards for supporting these pursuits by teachers will appear in the classrooms of those who never stop learning about teaching and learning. These motivated instructors have an inventory of ideas and resources that make their classrooms stimulating places for children.

Compared to the Friendly Giant, this school is at an embryonic stage in development of a collaborative model. However the intent and skills were demonstrated by Administration and some staff to expand efforts to engage parents. With improvement in economic conditions, it is reasonable to expect staff changes can occur, which will strengthen the collaborative team.

Chapter 6

The Star School Enterprise

An urban junior high school that makes you feel good when you walk into it, with many sky lights, soothing colours and wide halls centered around a futuristic stain glass window is the site of collaborative innovations that may inform others. In the 1993-94 term, about 400 students worked with 20 staff, including three support staff who had input into professional development and daily functioning of the school.

The surrounding community is multi-cultural, with at least 8 languages other than English spoken by the student population, and represents the socio-economic spectrum. The inherent diversity of this community may have contributed to the observed extremes in response of some parents and community members to the future-oriented pedagogy of this school.

What does collaboration entail?

Individualized goal setting and programming in an integrated setting described the expectations of students, parents and staff in this multi-graded, multi-disciplinary approach delivered by teams of three or four instructors. Students remain with the same core teacher throughout their three years here, if they choose to do so. The hope expressed by school staff and in school pamphlets and newsletters was that the relationship built up with their instructor would provide valuable continuity in expectations and learning environment. This program continuity was expected to reduce the time and effort that goes into review and testing to determine the achievement level and areas of curriculum requiring review or added support for each student.

Each student was assigned a teacher advisor, whose role in cooperation with the student was to set goals and monitor student development, while promoting self-esteem and autonomy of the student. Each advisor may care for as many as 25 students of all ages.

Curriculum delivery was centered around themes, and all aspects of science, maths, history, literature, human relationships and art were integrated into the information and responses of students to the particular theme. Computer technology and media was used by instructors and students in the collection of required information and the processing and presentation of that information through a wide variety of ultra modern formats. Students were engrossed in working on assignments on computers at every opportunity that they were not involved in group instruction or working from textbooks.

Teachers used the technology to record student progress, to present complex materials not normally available to students without the technology (e.g., use of the CD ROM and graphics), and to communicate with students and their families. The school philosophy, as espoused in the school handbook, assumes that new technologies and computer skills in all subject areas will help to develop essential abilities in students to prepare them to face change and uncertainty predicted for the twenty-first century.

A hands-on focus for instruction with media and electronic technology was possible through programs designed by instructors skilled in personal use of technology. This integration of technology engaged student interest and freed-up teacher time by reducing the number of group lectures, allowing more individual attention to students. The office staff and counsellors also had excellent communication with teachers at any moment through the school's electronic communication network.

Throughout the term, there were regularly scheduled forums in which students presented their research and projects to each other and to parents. Each of these "celebrations of student achievement" included the integrated electronic components of the students' work. Parents interviewed were impressed by the nature of the work that their children were becoming articulate with and recognized that the integration of technology was advancing their student's skills beyond their own.

Seventeen instructors, including administration and counselling personnel, offered a full range of academic and integrated options. For example, art, home economics, and extracurricular activities, such as soccer, basketball, floor hockey, track and field, horseback riding, swimming and scuba were available. A wide range of computer and technology training was offered to students, parents and staff; as well as a parent-lead computer club. Large numbers of students participated in intramurals. Small but consistent numbers of students were interested and committed to the computer club and science fiction games competitions.

The ambitious co-curricular program requiring staff support resulted in noon hour supervision being turned over to parents as a paid position. There appeared to be no problem for these supervisors to work with the students although staff did help out when needed.

The teams of instructors prepared integrated units combining a wide range of traditional core and enrichment options around a central theme, without a rigid timetable. Only French and music were scheduled for specific days with and delivered by subject specialists. This approach provided the mandated Alberta Education curriculum. The program also focused on student problem solving skills and the development of creative and constructive thinking.

Each teacher and aide was described as a learning coach, whose role was to help students to become capable and responsible in facing any challenges presented in this cooperative learning environment. The team aimed to teach students how to access and use information through current technology and emphasized strong communication skills.

An interesting and well-supported experiment during this year was the signing out of laptop computers to interested families who would commit to working with their students on projects and improving communication with their instructors. This project is being expanded in the 1994-95 term as part of a study headed by the cooperating teacher in this research.

From the school's handbook, "the best education for all is achieved when students feel a sense of belonging and parents and members of the community, including business and industry, work together as partners in education" (p.3). The school has partnerships with a local University and Apple Canada. Work experience exchanges with a number of community businesses and agencies, such as day cares, involved 20-30 students and have grown each year. School facilities were available for rental by community groups, such as church, sports leagues, and musical groups. The community has free use of the outside basketball courts.

The counsellor has an open door relationship with the Police service, Corrections Canada, Social Services and Child Welfare, Child Adolescent Service Association and the local Board of Health. The purpose of this relationship is to provide immediate response by appropriate agencies concerning wellness issues for students and their families. Students and parents described the counsellor as being approachable and having credibility in dealing with school-related issues, which was attributed to her also teaching classes. She shared a belief of many staff that students whose parents are involved in the school benefit academically and personally.

A handful of parents helped out as volunteers, and students and teachers share in extracurricular activities, like the White Team's Barbeque and Dinner Theatre, weekly assemblies to share accomplishments, and Friday forums which involve parents, staff and students. Students host and guide open house tours for parents and community members.

Sharing the Experience

In May, 1993 I had phoned this school because several professors in the University community were describing it as a 'hot bed' of collaborative effort to involve parents and community. The principal was enthusiastic about my witnessing the impact of this model upon its participants and of collecting their perceptions and suggestions regarding its evolution.

A fervent supporter of the vision, Cleo welcomed me to share in her classroom. Cleo has a Bachelor of Education in Early Childhood and 13 years teaching experience. She is a quick witted, demanding instructor who provided students with meaningful experiences beyond the classroom, on Homework Hotline and on several rewarding excursions, including a trip to Vancouver, Victoria and whale watching. Most of the staff welcomed my involvement, and the future appeared rosy for the research experience in this school.

However, this optimistic scenario did not sustain itself for reasons that can not be verified but for which hypotheses can be offered. I soon discovered the tensions that filled this school as staff and administration tried to gain support from many community members who did not understand this alternative approach to educating young adolescents.

I was encouraged to attend meetings and collected the perceptions of staff involved in all aspects of the school during shared coffee and lunch breaks. Often, the research task had me questioning the meaning of what was occurring around me. Throughout the year, the willingness of most of the school community to share observations, hopes and fears with an inquisitive outsider earned my respect and commitment to provide the reader experience of this collaborative process through their eyes and impressions.

I was able to collect the perceptions and knowledge of the collaborative efforts at school from the required number of parents, although it took much longer than at the other research sites. Some parents would not answer repeated calls nor return the consent letters sent home over the term, although the students signed their consent in class. The difficulty in communicating with two of the original three parents chosen as uninvolved interviewees led Cleo and myself to select two alternates, with whom I completed interviews.

The atmosphere in the staffroom and hallways was open and friendly. Students appeared to have no hesitation in approaching any staff member. They were polite and received immediate attention. The same response was given to parents in the school, as there was an open door for parents to visit the principal.

On my first day with them, students in Cleo's class told us their impressions of why the grade nines had performed poorly on the District exams. They suggested that many students did not take the exams seriously and were not prepared. They believed that things are much better this year.

When Cleo asked why they chose to come to this school, some said it was because of the computers, while others liked the groupings of students. Some suggested that students may come here because they weren't happy at their last school, but bring their problems with them. Students spoke out angrily when Cleo told them of a negative article about the school in a local magazine. The tendency for the students to defend their program from any criticism lasted all year.

A front office staff member described the staff as having

> given up a lot to be involved in this process, working beyond normal expectations for staff, based on my experience at previous junior high schools (personal communication, Oct.27)

She believed that the first students received in the school came from all over, initially displaying attitude problems. Now they have taken ownership of the school and are proud of their school. Evidence for this belief, may be that there are fewer and less serious discipline problems this year than last. Staff suggested in the fall that they were optimistic that the school's relationship with the community was improving, as indicated by the ease of getting parent volunteers and parent involvement in fundraising.

Teamwork in the classroom

The class worked in groups around tables on projects and peer evaluation. Cleo circled, reading their work and talking to individuals. She was physically close to each student and offered them warmth and encouragement.

Assistance in the checking off of homework was the role of several students who would come in before class and record completion of assignments on Cleo's list. In class, a student read out answers so the class could mark each other's problems in maths and science. Some times, Cleo picked groups of four students according to grade and compatability to mark consensually. If they couldn't reach consensus on some problems, Cleo explained.

Control of this group, who could easily stray off topic, demanded only comment and clear directions from Cleo to bring back focused work or quiet during creative writing time. Cleo had their respect, which they occasionally failed to extend to substitutes or the science intern. A common tactic to regain their focus was the use of timed intervals for completion of their work.

Longer blocks of time were used when the class was engaged in some effort that was going well or if they required longer to complete work. Occasionally students would arrive without their reading books and had to respect other's quiet time. I wondered about what benefits this teaching strategy provided those who could not participate in the group's activity?

Exclusion from a group or the classroom was the consequence of irresponsible or inappropriate behaviour. A core of students faced this consequence regularly due to problems of attitude or work habits. Cleo's measure of what was rude or inappropriate included both verbal and nonverbal cues. Discussion of the impact of judgment and reactions to others was a regular topic as responsibility and communication skills were stressed.

Students worked in pairs taking notes and revising their projects before group evaluations. For each project, Cleo provided a rubric, describing the phases and materials to be gathered and analyzed, describing to groups or individuals the characteristics of quality work. They were to produce a first draft, then work over it together providing revisions and constructive suggestions on how to improve their presentations. Active participation of students by notetaking on each presentation and asking questions was a must. The final draft would be presented in class and be evaluated by their peers and Cleo. Occasionally parents shared this task at forums.

Incentives for an excellent job or achievement of goals beyond praise from peers and Cleo often included a ticket for a draw on desirable items, like a pizza. Although students clearly were on a continuum of knowledge and skills in core subjects, there was a concerted effort by staff to help each student discover their personal strengths and be valued as an important contributor to the community.

The morale of this disparate group of students in their classroom was surprisingly high considering their backgrounds. Collectively this class was known to be under a great deal of stress in their home lives. For example, four students lived in recently divorced or separated families, two others had single mothers, several others experienced the impact of alcoholism or job loss in their families, two had one parent away much of the time at distant jobs, the father of one student died during the year (after his mother had died when he was a small child), and another student was a runaway. That these stressors had an impact on their school work and ability to commit fully to their education seems unquestionable.

The close relationship of these students to school staff made knowledge of their family life inevitable. The team's personal knowledge of each other's lives was often confirmed by parents. I found it distressing to watch the trials of some of these young people who appeared to have an inadequate support network outside of school. I suspect that they will face many difficulties resulting from this lack of essential guidance by primary caregivers.

Respect for each other was demanded by Cleo and little signs of discrimination by age or ability was apparent during group work or brainstorming sessions, although they ranged in age from 12 to 16 years. Although some engaged in off task activities, only those students not caught up with their groups' work were resistant to questions or suggestions. Students who came to school repeatedly without assignments completed were sent home and parents notified of their shortfall. They were not allowed to return to this class until they had completed what was required.

Strategies to strengthen student confidence and encourage them to think about their own learning included daily reflections and learning logs. Reflections time was provided towards the end of each day to prepare for work taken home and to assess attainment of daily goals. Students having difficulty could stay at lunch or after class to get Cleo's help. Daily learning logs containing student self evaluations, perceptions of their day and homework were to be completed each day and signed by their teacher and parents. This did not in fact always occur and Cleo and several parents felt this was not being used as efficiently as intended.

Strategies to encourage students to become aware of their goals, beliefs and emotions included time for guided imagery and periods of listening to music or reading prose or poetry. Cleo shared her feelings and emotions about critical events in her life outside of school. By February, open and honest exchanges were typical and Cleo and the students would make special efforts to show each other their appreciation. For example, they made cakes on Valentine's day and shared these with the other classes in their team.

The following table displays the supportive environment of this classroom (see item 3 and 10). It was noted that a lot of dialogue was off-task and was brought back to focus by leading questions from Cleo. Talk counted is subject related, not general conversation. Students lapsed into off-task discussion and movement whenever Cleo was diverted from directing class activities for more than a few moments. Whether this tendency is normal for this age group of students or idiosyncratic to the cooperative groups in this class was unclear.

TABLE 5: CLASSROOM VERBAL BEHAVIOUR INVENTORY - STAR SCHOOL.

**** Based on 100 minutes of sampled dialogue.**

Behaviour:# of Occurences (If by teacher, is entered as
a T, boy as B; or girl as G, Class as Cls).

1) Assumption of responsibility for mistake or failure.
3B; 2T.

2) Assumption of responsibility for success.
4B; 2G.

3) Praise given.
2T to Cls; 3B to Cls; 8T to G; 2Cls to G; 5T to B; 2G toB; 1G to G.

4) Criticism given.
5T to G; 3T to B; 4T to Cls.

5) Correcting other's answers or behaviour.

15T to G; 13T to Cls; 8T to B; 1B to T; 1G to B; 2B to G.

6) Advice or direction given to others.

9T to Cls; 2T to G; 3T to b; 2G to G.

7) Questions asked of individuals rather than whole class.

14T to G; 1G to T; 2G to G; 5T to B; 1B to B.

8) Challenging questions asked.

1G; 4T to Cls; 4T to G; 2T to B.

9) Talking about science as important to good career or lifestyle.

1T to Cls.

10) Participate or encourage peer group learning or joint problem solving.

8T to Cls; 10G to G; 2B to B; 5G to B; 3T to B.

11) Encouragement for out of class activities related to science.

2T.

12) Relate science curriculum to everyday life/social issues.

4B to Cls; 7T to Cls; 3G to G.

Students showed impressive creativity in their presentations, using a range of graphics, art and style warranting applause and excellent evaluations from peers and Cleo. They were critical of their own work, but this was softened by others' evaluations.

The pedagogy of letting the students work at their own level in the learning sequence and advance according to the time they require for mastery was referred to in the school's vision statement as "fixed achievement, variable time" (p.10). Cleo claimed that this setting promotes students, allowing them to see learning as distinct from age or grades. She believed that

> Many kids in regular schools are not aligned with curriculum. Here if you try something and fail - you don't go on to the next thing. You go back and do it again, begin to recognize mistakes and decide what to do about it....My job is to enable students to be independent learners. I will only answer if I see evidence of them trying other sources. (personal communication, Dec.10)

The class showed some turnover due to non-attendence and moves into or out of the school or class. Inspite of these changes, the group steadily developed bonds and their closest friends were within this team. Some students and their families were very close to Cleo. Gradually many students came to trust me. They were invited to our farm and chose to have their year-end party there.

Inclusion of Special Needs Students

Within the multi-age groupings, approximately 20 special needs students were fully integrated. These students ranged widely in ability; some were at elementary level in maths and language arts while others may have been gifted in particular strands of their education. They were working on the same themes as their peers but at their own level. This is practical, as each student was provided with materials at their level and each set goals by the day and month on which their achievement was assessed. Within each strand or subject, a student's report card would show her/his year in school, the grade level at which he/she was achieving, and an effort mark eg. reading, writing, oral. The teachers said this assessment is welcomed by parents as both honest and meaningful. Teachers claim that students can feel proud of their best effort and attainment regardless of what grade level they 'should be at'.

Passionate support for this detailed and time-consuming form of assessment was heard in the claim of one teacher with many special needs students in her classroom,

> In many other schools, some of these student's performance would be seen as a failure, inspite of the fact that they are busting their butt. Here they leave with deserved pride and a realistic picture of course selection for high school and for career aspirations. (personal communication, Mar. 4)

In talking with several students who were clearly performing below traditional grade level in the class that I observed since September, I noted that they had a positive attitude toward entering high school and no pretention of what courses they must enter to reach their goals.

Teachers with special needs students integrated into their regular classroom depend on student peer support to help these students do many activities that they would be unable or unwilling to attempt on their own. Disabilities are approached by the class as a group finding strategies to make difficult physical challenges attainable and supporting behaviours that give personal control and pride to both the student with the challenge and his/her peers. Students requiring psychiatric help, those with severe behaviour problems, and those with visible disabilities are all welcomed with a clean slate.

Computers were used by those students with difficulty in writing or focusing on a shared lecture, but otherwise they were treated no differently in terms of expectations than any other student. In this environment of multi-age grouping and flexible programming, differences in student performance were less evident and those students in the same group got to be very understanding and supportive of each other.

An autistic boy with occasional violent outbursts was helped by his peers in his struggle to gain self-control. They lent him pencils when he forgot them and volunteered help with his work, moreso than with less needful students. Although critics might worry about interference in the momentum of academic achievement for less challenged students, what lessons and life skills did they learn? Are these likely to be learned in a class of more homogeneous abilities?

Parental involvement is helpful in teaching pro-social skills, discipline and in providing insights into how to make the learning experience more achievable or meaningful for their children. Many nights are spent by these teams talking to parents. Meticulous records of both positive and negative behaviours and achievement must be kept and shared with parents to show that coaches are knowledgeable about their child and on their side.

The teachers claimed that it is vital to stress positive accomplishments with students so unsuccessful in life that they come to the school with an 'attitude of failure'. Once they start to experience success, they learn to work hard and their behaviour meets expectations.

Occasionally these teachers face a situation where everything they do at school is undone to some extent at home or does not transfer beyond school. That child does not learn to generalize these important skills. Some parents, lacking the necessary parenting skills or who are unwilling to become involved, have difficulty working with the teachers. Their children lack part of the support network available to their classmates and it was noted that these children seldom do as well. This observation is widely supported by recent research (Mitchell, 1992; Friesen, 1993).

I learned what the metaphor of being a valued member of this school's community rather than its client means, while getting to know Jonathan,(a young man severely physically challenged with cerebral palsy), and his mother. Jonathan is a compelling advocate for membership in this community. Jonathan's teacher describes him as academically gifted, a leader in social studies and language arts, who participates as fully as his challenge will allow.

Jonathan's pride in his own and other's abilities has won the respect of his entire school community. His efforts were rewarded on a recent whale-watching expedition with 40 students, parents and school staff, where he enjoyed the same activities as everyone else through the support of friends and adults.

At his mother's suggestion, the school arranged for Jonathan's physiotherapist to give an inservice to 3 or 4 of Jonathan's peers, providing them with the skills necessary to help Jonathan do his stretching exercises for physical education for the same amount of time per week as his class. Willing peer support and turn taking means these friends can also participate in the regular physical education class activities. Although

Jonathan is the only student in the school so obviously physically challenged, his membership in this community allows Jonathan and other students to feel good about themselves and their contributions.

The school has arranged for well known public figures who face similar physical challenges to talk with Jonathan in order to share their strategies for dealing with the challenges in lifestyle, education and social relationships. Interest in establishing positive mentoring relationships for students who could benefit from such relationships is an aim of Jonathan's teacher. The staff's recognition of the expertise of parents in dealing with their children's challenges provides untapped resources in providing personal growth and advocacy skills for all students in these inclusive classrooms.

Parental Involvement

A first impression of parental interest and involvement was gained at the first PAC meeting on Sept.21, which was well attended by parents and staff. The principal gave her commitment to "make this the best junior high school anywhere and no child will get lost in the shuffle." The PAC executive gave positive testimonials about their experience of the school. Three mothers from the crowd gave bouquets on how much the new program had improved their and their childrens' perceptions of school.

Parents were very interested in the principal's description of the multi-faceted assessment program, involving personal report cards, parent conferences, and portfolios of the student's work. They discussed parent requests for four reporting periods.

Individuals questioned whether one or more teachers were going to instruct core subjects.

The tone of the questions was positive although concern was expressed about the performance of the grade nines on the District Benchmark Tests for maths and science. The principal identified these areas as a central theme in the upcoming year and claimed that the school was going to be aggressive in diagnostic testing and in gathering student records from feeder schools. The image and performance of the student body apparently was of as much concern to some parents as to staff. Recognition of the need to improve public perception of the school was discussed and the Principal suggested community service by students (such as maintaining parks in the area) may help.

Of the schools researched, this was the only site in which a few parents would neither answer calls from the teacher nor cooperate with my research. One staff member described the parents as falling into four discernible categories:

> 1) a core who believe in the vision statement of this school and see their role as contributing to positive changes in education but are extremely resistant to any compromises made in the original approach;
>
> 2) parents who are interested and active in all school activities and in supporting their childrens' growth;
>
> 3) parents who are not interested and do not attend school activities but if they get mad they are irrational; and
>
> 4) those who never come into the school and appear not to care. (personal communication, Oct. 20).

(I discovered how informed that categorization had been.)

When selecting parents who were defined as 'uninvolved' by the school, I was interested in interviewing one parent from category 3 and two parents from category 4.

Staff members often expressed a belief that a more homogeneous and affluent community with a higher educational level would have shown a greater affinity for the stated goals of this school and responded with a broader base of support. One mother declined to be interviewed, saying that she was not happy with what was going on at school, but would not describe her objections. Two other parents shared concerns about the relationship of Cleo to her class, in terms of the demands she made of students. In fairness to the teacher, the detachment of some of these families from any school activities went beyond not being involved to rejection of the process.

The principal advised me that this response from some parents was not surprising. She said that I should not be worried about their tardiness as my research is protected by blanket copyright protection, which parents sign upon registration in this school (personal communication, Oct.20). Office staff, many teachers, and the councillor also shared their suggestions and knowledge of how to approach these difficulties and were eager to help in any way throughout the project. This atmosphere of support strengthened my efforts to complete all aspects of the research. When this principal was replaced in December, this early support was most important to my work as the school climate was changed by the entry of a new male principal who attempted tonderstand the problems facing the school in its relationship to the community.

Insights and Suggestions from Parents

The involved parents had accurate knowledge of what collaboration entailed in this school and of the communication network between school and community. Several involved parents interviewed described the rotation of curriculum between the teams as an important saving of resources, such as teacher expertise and textbooks. Involved parents considered the staff to be very cooperative in dealing with student problems and maintaining of school rules. They valued the high ideals of the school and recognized that not all students and parents conformed to them.

They felt that for the larger group of students, collaboration at school is having a positive effect by providing greater continuity than other schools have, teaching responsibility, and integrating the age groups well. Cleo was described as caring and the kind of teacher students will never forget. Involved parents reminded me that those most critical in the community do not have students in the school and should not be receiving the attention they are in public media.

The mother of a boy who was academically struggling and often appeared to be drifting expressed a concern that this program can do more to help shy or withdrawn students.

> It is important that they be involved in activities to help them be accepted. This shows other children that it is difficult (for them) and that they need compassion and empathy. (personal communication, Nov.17)

Involved parents were impressed with the involvement and charisma of the principal in the spring term and expect that he will continue to support the multi-graded classrooms. Like the current administrator, many parents voiced their feelings that the school had tried to do too much, too fast. They believed this resulted in some strong individuals holding different views of what the collaborative process was to entail and on roles of parents and staff. Opposing positions have hardened and several parents felt that the initial multi-graded program was not given a sufficient trial before changes were made. An involved parent suggested the introduction of the single-grade classrooms has had a negative effect on students in the integrated program.

> It has caused a split between the two groups of students and comparisons that never used to be there. The whole purpose of the integration program in the first place was to eliminate peer differences and pressures in the classroom and outside. ... I feel that a lot of the problem was that parents were not adequately informed by administration and instead received their information by gossip.(personal communication, Nov.26)

Both involved and uninvolved parents interviewed saw positive benefits for their children from their experience in this collaborative environment. They recognized that staff are under a lot of pressure to 'do it right' and demonstrate how this model can benefit the school community. Involved parents claimed that the Board had given inadequate support to their school's staff in educating the public. Both involved and uninvolved parents asked about advice they would give to the school or Board suggested that the community was inadequately prepared for this new junior high. The need for informative meetings with the community and involvement of the two feeder schools was suggested.

Involved parents appreciated the information access and organizational skills their children were gaining here. This program was described as being the best they knew of at teaching these important life skills. One mother, not involved in any other way at school, praised the monthly meetings with the teacher as being really well supported by parents, enjoyable and important for informing parents of what and when assignments are due.

One mother active in PAC doubted that the Trustees for this school could even explain this school's program, indicating how much faith she felt they had towards this school's effort. Two parents said they will not enroll their younger children in the integrated program even though they believe in its benefits, because they believe that the program will not be there for them for the three years they require it. If perception determines behaviour, parental apprehension may realize the demise of the integrated program due to falling enrollment.

Parents appreciated administration's invitation to become involved in office work and learn the technology, as well as to share any of their special skills with students. Involved parents were pleased with discipline and school environment generally, attributing the verbal misbehaviour occasionally overheard to the age group.

Involved parents suggested that those students needing the most parental support were those with parents who never attended parent teacher meetings each month and probably did little else to support their children's education.

The paradox of this research with parents was that only in this site with adolescents was there such a dynamic difference in the roles and perceptions of parents. The principal described his impression of many of the parents who attended his first meeting with them after he assumed leadership in January, when they were deeply concerned about what was going to happen to their children in the multi-graded program.

> I had the impression that if they did not like any practices in a classroom or changes made in team function, they would first insist their child be moved out of the class. I had a clear sense from parents, they run the school, not the administration.(personal communication, Feb.23)

The issue of ownership is a double-edged sword; at the same time the school wants committed parents actively helping in the school, there is fear and resentment if these same parents show signs of assuming responsibilities that the administration or staff claim as their territory.

Several parents suggested that for this model to succeed there is a need for stronger families and stronger discipline than many children know today. Two of the uninvolved parents knew little about the collaborative process and by year end expressed disappointment with how their child had fared in the class. They identified the lack of school marks as troublesome but appreciated the responsiveness of most of the staff they dealt with.

Both involved and uninvolved parents suggested that this system of learning offers real advantages in terms of attitude and independent learning and communication skills for responsible students who take advantage of it. Parents expressed pride in how well their children could stand up in front of an audience and discuss their work. They credited the integrated program with their children's growth and their enjoyment of school.

However, many parents felt that it is not for every student and that another program should be available for those who do not appear to be achieving to expected community standards. Parents were split on whether these students should be streamed to another site.

Three involved and one uninvolved parent interviewed praised the development of a portfolio of each student's work. They claimed that marks may not be enough in the future. They were also very pleased with the friendly relationship their children had with their teacher, seeing this as promoting social skills and self confidence for their children.

Two parents requested development of a stronger French program, and more time to develop skills in Physical Education. They claimed that if the integrated program falls behind in regular curriculum, physical education is sacrificed and that should not be happening as it is essential to long-term well being.

Student Achievement

Nine students in this team were in Grade 9, nine were in Grade 8, and seven were in Grade 7. As indicated by Table 6, they varied widely in terms of incoming evaluations and achievement over the term. Note that many of these students were achieving significantly below their grade level and had minimal gains throughout this year in terms of grades (Student #2, 12, 17 & 26). This suggests that only minimal gains were made in focusing on curriculum, while it was apparent from the nature of the dialogue in the class that much of their energy was directed at understanding social relationships and resolving issues in this facet of their lives.

TABLE 6: STAR SCHOOL ENTERPRISE - GREEN TEAM SCIENCE.

STUDENT	Yr. in SCHOOL	ACHIEVEMENT Beginning %	ACHIEVEMENT Term End %	# of Absences
1 M	8	@Gr. 8 - 55	75	3
2 M	8	@Gr. 6 - 50	50	45
3 M	9	@Gr. 8 - 50	60	8
4 F	7	@Gr.8 - 60	85	2
5 M	7	@Gr.7 - 55	70	8
6 M	8	@Gr.7 - 50	75	7
7 M	10	@Gr.8 - 50	60	7.5
8 F	9	@Gr.9 - 65	65	5
9 F	7	@Gr.7 - 55	70	2
10 F	9	@Gr.9 - 70	85	1
11 F	8	@Gr.8 - 50	75	3
* 12 M	7	@Gr.5/6- 40	55	6
13 F	9	@Gr.9 - 70	80	10
14 F	8	@Gr.8 - 65	75	5
15 M	9	@Gr.8 - 50	65	6
16 F	8	@Gr.8 - 75	95	1
17 M	9	@Gr.7 - 50	55	65
18 F	8	@Gr.8 - 65	80	2
19 M	7	@Gr.7 - 50	70	3
20 F	9	@Gr.8 - 50	70	18
21 M	7	@Gr.7 - 50	70	3
22 F	8	@Gr.8 - 55	75	5
23 F	9	@Gr.9 - 70	80	4
24 F	8	@Gr.8 - 65	75	20
25 M	7	@Gr.7 - 60	85	10
26 M	9	@Gr.8 - 55	60	9

Note * This student was functioning at a Gr.5 level in mathematics, at a Gr. 6 level in the language components of his portfolio but blossomed in his writing in the computer project over the summer.

Work ethic and expectations: Sharing the Vision?

All staff interviewed believed that regular supervision by parents of their child's homework and behaviour, consistent with school expectations is essential to ensure both academic and personal growth for these young people. Expectations for student and parent responsibility were shared through monthly PAC meetings, private or group parent-teacher meetings, phone calls and monthly newsletters.

Easy accessibility to all staff was provided by telephones in each classroom and voice mail recorded messages to be responded to during release time, lunch, or after school. Parents were welcomed to drop into the office any time to talk with administration or counsellors and many teachers welcomed parents to come and observe their child's classes. In the class that I observed only one parent took advantage of this offer, helping with marking and tutoring students from another class.

Staff expectations for parental involvement and support for their efforts with students occasionally were resented by parents unfamiliar with such expectations or just thankful to turn their teenagers over to someone else's care when they may be having a trying time with them at home. The staff recognized that children in this age group seek autonomy from family and acceptance from their peers, demanding privileges from others but often avoiding responsibility at the same time that they are becoming deeply concerned about social issues.

The collaborative approach may impinge upon the privacy of parent or student occasionally, because it seeks to share responsibility for appropriate social skills, quality work and organizational or study strategies that will increase the chances of success. Current educational research (Vygotsky, 1986, Mitchell, 1992) suggests this intervention by knowledgeable and concerned adults is critical to advance these youngsters beyond their present developmental and psycho-social level. Resistance is normal as students learn with assisted performance to shoulder increasing responsibility for their conduct and learning. Although staff were often frustrated by the demands of this chore, they perceived parental involvement as tying home and school together, offering greater consistency in rewards/consequences for students.

All staff contributed to development of a Positive Behaviour Plan to be enforced by the councillor. Students appeared to see this as fair and staff say students will come to the councillor for help after receiving a consequence. This acceptance by students of the expectations and control measures of the school may be indicative of support for the collaboration of staff and willingness to engage in similar efforts.

A grass roots example of community collaboration is beginning with a new Positive Heroes program which will have parents nominate deserving students; businesses in the area will donate prizes. Recognition will be given on a display wall at school and at an awards dinner.

The councillor described the quandry staff face when they try innovative collaborative practices for the first time.

> Although we are a revolutionary bunch, change is never easy nor acceptable to all. Some of the more zealous parents showed resistance to the red team's team teaching efforts now. Strong supporters from last year felt that the school had sold out the vision by having teachers share the load and team teach. (personal communication, Oct.20)

Cleo realized rewards from expending the energy necessary to collect and share resources and from creating strong bonds with students, parents and other staff in her team. She was also acutely aware of the toll this effort had extracted.

> My first year here was the best of my teaching career so far and the most painful and difficult. I became a believer that the strategies, organization, and vision that we were working to implement was the way to go. I learned this was the way that I wanted to teach. I experienced a unique learning experience that enabled me to be a better teacher. (personal communication, Jan. 20)

The Importance of Building a Positive Image

The impacts of attempting to implement this complex collaborative approach, which was poorly understood by community members diverse in terms of education and resources, were valued or a reason to leave the setting -- depending on which participants were interviewed. What factors could have contributed to this?

The program of studies, methods of curriculum delivery and learning resources were approved by the Superintendent and Associate Superintendent. Subsequently, the principal handpicked staff known for their expertise in areas identified for the mandate of this school. As one staff member noted,

> Many of these teachers were elementary specialists, accustomed to the same teacher - same children all day, which meant the multi-age concept was not that new to them and they all chose to come here because

> they wanted to be here. (personal communication, Oct. 27)

Staff began a campaign to gain the support of the local community and parents of adolescents who should attend this new school, as it served their catchment area.

Initially support from the Board was provided by members attending community meetings to help answer the questions of those wanting more information on this identifiably different approach to educating young adolescents. The principal attempted to share her knowledge and beliefs through public meetings and by distributing a documented, descriptive handbook about the school. The information was derived from her current review of research into preparing adolescents for a technologically based future and of the middle school reform literature, which calls for a collaborative model involving home and community.

Lack of endorsement by some community members, as shown in newspaper accounts in the fall of 1993, led to the exposure of those unhappy with the school's approach. With their growing awareness of the opposition from some community members (none of whom had a student in the school in the 1993-94 term), it appears that visible support from the School Trustees or Board vaporized. The staff were frustrated and angry about this lack of support but attempted to improve relations with their community in spite of their alienation. As one staff member suggested,

> There was a 'gathering the wagons' mentality here. We were left by Central Office to do or die and then they say - if they couldn't do it, nobody could. (personal communication, Oct. 20)

I witnessed staff being subjected to a roller-coaster ride of emotions, related, they believed, to the lack of a positive image in the local press and the resultant distortion of their relationships with parents and each other. I believe this climate was also due in great part to increasing pressures to show visiting educators and community that this model can better serve the education and personal development of adolescents. Students and parents who were committed to the vision of their school wrote letters to local newspapers in defence of the program, but these were not published until a much later date. The interviews with parents and staff disclosed their concern for the future, coupled with anger at those who were threatening the program. Watching the faces of staff throughout the school year, I witnessed the toll these tensions were taking on them. It seems unreasonable to believe that this did not at the least distract some students from the program's intended focus.

When staff were questioned as to whether they and the administration are tolerant of those who are not team players or who fail to take advantage of shared resources, they reminded me that staff came here because they were committed to the vision in some way. Staff who do not like this setting will finally say so and either arrive at the decision to change or leave.

Staff attrition was unparalleled in the other schools studied. A teacher described how devastating the pressures within this school have been on staff.

> Only four teachers and the councillor have not selected a transfer out of this school. Some of this can be attributed to Klein's cutbacks, but I've talked to these people individually and they all want to leave anyways. I'm staying until these people in my

> class are finished their three years and I'm also leaving the ship. (personal communication, Mar. 14)

Professional Growth and Program Change

Each school day began with a short staff meeting which enabled staff to attend to curriculum, behaviour or professional development issues in a friendly setting. This encouraged them to see each other as people, not only as staff. A good meeting left people laughing and set the tone for the day. Some individuals begrudged the time spent, but most felt they were important. Until the principal took over chairing the meetings in the spring, each meeting had been chaired by a different staff member, presenting their perspective on a matter of curriculum or professional importance.

One of the adaptations requested by the teachers was regrouping the teams to provide new ideas, more flexibility, and greater continuity between teams. Although initially resisted by some parents, the current principal has gained their acceptance for the effort and believed that this was a positive growth step to get everyone involved talking about things that hurt and accepting that everyone does not have to agree on everything.

A staff member described the changed nature of meetings now.

> They are not curriculum oriented any longer....He is strong on assemblies, getting staff support - but not on staff development, professional development or curriculum development. (personal communication, May 3)

Some staff members expressed concern that the new administrator was not philosophically aligned with this model of collaborative schooling. As one worried teacher said,

> The reason there are only 12 out of 110 grade sevens registering in multi-graded teams is because our

> administration is no longer taking an active role in educating parents about the advantages of this program for their students. So of course, it is going to die if administration doesn't believe in it. (personal communication, May 5)

Falling Stars

Experiencing the collaborative vision of this school is much like watching a falling star; brilliant, entrancing, but only lasting for a short time. The descent of this star-staffed, technology-rich school began with the failure of an ambitious campaign in 1992 to attract parents and their adolescent students to a restructured concept for education. Some vocal individuals interpreted the contrasts between the proposed model and traditional education as criticism of schooling as they had known it, and watched closely for any weakness in the structure evolving.

As is customary in building a team from a high energy, motivated, and creative group of individuals with diverse personalities, it takes time to work out the inevitable conflicts and negotiate a productive middle ground. This school had a steady stream of educational experts and community members touring the premises and invading the privacy normally available to sort out these natural 'wrinkles'. Too much capricious input heightened tensions in the school, producing pressures and demands that had staff members feeling like they were under a microscope.

In the fall of 1993, the principal responded to pressure from the vocal community members who wanted their neighbourhood school to be more like what they knew schools to be in their past (with single grades, conventional delivery of curriculum, and most important of all marks that compare their child to every other child) and introduced a graded class of seven, eight and nine. The remaining 11 classes were distributed among the multi-graded integrated teams.

Mid December, the principal whose effort and knowledge initiated the genesis of this model, left the school showing signs of physical and emotional exhaustion, to a secondment at the University. She was replaced by a man, recognized by staff as a powerful manager with a record of being able to gain the support of the community in his last school. He assumed a hands-on approach to managing the difficulties he identified within this school community: teaching classes, reorganizing staff responsibilities and meeting parents.

For the third school year, enrollment has declined slightly and only two multi-grade teams remain, spanning six classes. The remaining six classes are single grade classes. It is my opinion, after lengthy discussions of the history of this school with parents and staff, that had they been left alone to derive their teams and a stronger communication system with home and community, the apparent devolution of the model described might have been prevented.

In sum, most of the school staff observed were committed to engaging parents in everyday school functions and in sharing responsibility with parents and students for completion of quality work and responsible behaviour in relationships with others in the school or community. Questions regarding the commitment of present administration to a continuance of the vision claimed by staff during this research period remain unanswered. The energy, will and skills necessary to propel continued evolution of a team approach to education in this school are clearly found here. Direction or focus of leadership appears to be away from the multi-graded integrated model, possibly to make substantive changes in approach more slowly and only after sufficient accurate information has permeated the community to gain approval from parents and community members. This slowing in the pace of restructuring education that this new setting offered to its original visionaries is likely to contribute to continuing staff attrition in the short term.

Chapter 7

Lessons Learned

Experiencing how three schools work with parents and community to provide the skills and knowledge for academic and personal success of students has provided a basic understanding of their process and strategies. Observation and inquiry of the three master teachers who shared my research revealed their philosophy and practice that provide pride in their work and the respect of their peers, students and parents. Their advice and strategies may prove valuable to other teachers. This chapter describes the successful practices gleaned from this research.

It also shares concerns regarding the future of universal education in Alberta, if current funding cutbacks and downsizing of education continue. The development of many more collaborative schools seems assured in this climate as teamwork and mutual support by caring adults, who are educating children, may be the only alternative many in this province can access in the foreseeable future. The interest and commitment demonstrated by parents who were involved in these schools offer hope that skillful educators can develop communication networks and advocates from their community to increase parental involvement in schools that presently do not know the benefits of such support.

Factors Essential to Collaboration

As each of these schools is part of a larger culture, common factors that guide the change process within that larger culture also determined the rate and nature of restructuring within each of the schools. The factors identified from analysis of data from all three schools included: a) access to accurate information between families and school; b) commitment to collaboration by administration and parent groups; c) development of advocates for the school within the community; d) meaningful roles for students and parents which enrich curriculum, build pride and develop their leadership abilities; and e) opportunities for personal and professional growth provided by the school.

Characteristics of successful collaboration observed in these schools may help other schools to focus as yet untapped resources for improving education. These characteristics include:

1) More time for joint planning by teachers, resource staff and volunteers to develop stimulating curriculum and extra-curricular programs. Time is needed to jointly define the mission statement, develop structures and process for parents and staff to build creative teams involving home, school and community, and for developing the knowledge base and leadership abilities of all adult participants. Principal and administration must provide time for teachers, resource staff, and involved parents to plan and discover resources for lessons that will engage the

diverse student populations in the inclusive classrooms of today.

Principals in these settings provided substitutes and took over classes to arrange for joint planning time. Teachers arranged meetings for planning curriculum or professional development outside of regular class time, although this is generally regarded as an imposition on private lives. Timetabling can be juggled to allocate blocks of free time for collaboration. Parents have only been minimally engaged in freeing up staff for joint planning as of yet and need for their help may increase in the near future due to funding cutbacks.

2) Prompt and accurate communication between home and school informs parents of school life and student progress while summoning their involvement and responsibility in their childrens' education. The Teddy Bear School and the Friendly Giant depended primarily on newsletters and phone calls by staff and parent volunteers to inform parents and community of school events and gain widespread support for these activities. Star School Enterprise extended the communication links with home through use of voice mail and electronic mail to parents who signed out laptop computers and the use of daily learning logs. Although staff and parents valued this technology and the daily learning logs and personal reflections journals, they were under utilized. Parents expressed

interest in gaining the skills to better employ these communication strategies.

3) Support from the school district is crucial to educate parents and community of the advantages of the collaborative process and to provide technical and personnel support to implement innovations selected by the stakeholders. Without support from the District the collaborative model is threatened. The perceived lack of District support and knowledge of programs at Star School Enterprise threatens morale there while reinforcing the opposition of some community members to their model. Recognition of the achievements and contributions of the Friendly Giant by the District, and reported in the media has bolstered this school's reputation and attracts staff committed to the collaborative model. Lack of input into staffing and budget limits the Teddy Bear school's potential for adults in the school community to asssume ownership, as Central administration has sole control over these vital aspects of school function.

4) Committed leadership is required to guide staff and community into the relationships and dialogue that taps their ideas and energy for sharing responsibility in staff development, innovative remediation, curriculum development and evaluation of student achievement and school effectiveness. As suggested by the research

> literature on effective schools, I concluded that focused leadership must initially come from administration, who are in a position to allocate resources and time to initiate the process.

The principal must be the school's most visible advocate, coordinating partnerships and community initiatives for mutual benefit. The administration's fairness and honesty in dealing with students, parents and staff combined with necessary talents to promote the school to its community attract stakeholders who become involved in providing greater learning opportunities for the whole school. The reality of shared workload and responsibility for school function supported by a process to access resources and talents of school staff and parents is a powerful magnet that draws increasing community involvement and other schools to follow in their footsteps.

Different Origins But Common Goals?

The schools approached the integration of programming and collaboration with parents and community from different starting points. Teddy Bear School has just begun to share decision-making with parents and staff, while the Friendly Giant has developed committees and resource programs involving parents and community in nearly all aspects of school function. All three schools offered family support services and both the Star School and the Friendly Giant offered parents and community members personal development courses.

Teacher collaboration varied from some grade-level sharing of ideas or resources at the Teddy Bear School to joint development of theme-based team curriculum for the entire junior high curriculum at the Star School. The Friendly Giant excelled at developing custom-made programs for remediation and offered instructional support from specialist peers, resource staff and parents. Partnerships with community were being built at all three schools and were powerful tools for building a positive image of the school within the community.

Evolution of the Models

The rate of incorporating collaborative innovations also varied greatly. The Friendly Giant has achieved collaboration in almost all aspects of school life over a period of four years. The Teddy Bear School has been talking about the process for the last two years and is slowly building parental and community ties. The Star School, unlike the two pre-existing schools, did not have to transform an existing plant or staff but instead began their operation under a totally collaborative design. Star School struggled with the impact of distrust and meddling by some community members who rejected such a different structure for delivering mandated curriculum using the latest technology. That this process did not advance at the same pace or in the same manner is clear from description of the involvement and perceptions of parents, staff and students at each of the schools.

Advice from the Masters

Asking for help (and expecting to receive it) is recognized by the teachers in this research project as central to the collaborative process. First, the participants have to identify how they need help, who is available within their community to provide it, and acknowledge that involvement of others provides opportunities for shared responsibilities and innovations.

Cleo found sharing curriculum design and delivery with her team really helped with the work and built strong friendships that help her to weather frustrations. Educating parents to be active in their childrens' education was a major role for her. Because the teacher's role with adolescents in this setting is so intimate, it is essential that the teacher build a strong relationship with parents to provide consistent expectations and rewards for student behaviour. Those parents who were involved in this class recognized the importance of their role and valued the extra time that Cleo put into communication and meetings with them.

Cleo shared her planning time with her own children and had a parent helper to lighten her marking load. She was thankful for her second year students, who helped with in class checking of work and were leaders in projects, due to their understanding of the process.

Each of the teachers pursued an ambitious professional development, taking university and leadership courses to broaden their skills. They were all physically active, walking, golfing and gardening or working out. Each said that it is vital to make time for yourself and for your family. Each teacher regularly set aside the tremendous workload associated with teaching today. Time set aside for planning was strictly adhered to.

Each of these teachers listened closely to their students in designing flexible lessons. Gemini claimed that the children come up with exciting ideas that beat the planned lessons and she has learned to let go of controls she previously thought she had to hold and lets the children learn how to do it and take the responsibility required. She never uses workbooks because they are boring for the children and create busy work. Instead they produce their own books on every project and share them with each other. She never takes these books and corrects for errors, encouraging children to take risks and move beyond what they are sure of. In each of these schools, mini-lessons were shared with all the students around a table, generally as a casual conversation.

This is an extremely different way of looking at teaching - each of these teachers said they do not perceive their job as 'pouring knowledge into student heads'. Like Cleo and Slick, Gemini was continually piqueing student curiousity with lively questions and novel props. Each of these teachers was committed to their students and asked for parent involvement on every occasion.

Parents responded readily as volunteers in all three schools but teachers found it somewhat frustrating to engage them in a supportive role, monitoring behaviour and quality of work of students outside of class on an ongoing basis.

The introspective nature of many parent and staff comments about the future of the multi-graded program at the Star School unfortunately sounded like a judgment of failure rather than an appeal for help. The cooperating teachers believed that staff have to get beyond blaming each other or uncontrollable factors for inadequate student achievement compared to the District standards. Instead, staff and parents have to develop a shared set of goals and influence the teaching and learning process to make these goals obtainable.

Unanswered Questions

From these findings, it is not possible to claim that the age of the students was a primary factor in the perceived success of the collaborative process. Overall satisfaction of the participants with the school climate, student achievement and input into the decision-making process in each school was characteristic of both the senior high school and the elementary school. The level of involvement and support reported for the junior high school was less. The five factors that distinguished the development of the collaborative community were likely most influential in bringing about the changes in attitude and effort reported in these three sites.

Personal characteristics of school staff, students and parents appeared to influence perceptions of the impacts of the collaborative efforts at each site. These characteristics have been briefly described but it was not possible within the constraints of this dissertation to analyze personality differences of the various stakeholders at each school. What impact did differences in specific educational values, such as support for cooperative learning strategies or development of independent learning skills, have on their perceptions of their school?

Although there were observed differences in these values held by stakeholders from school to school, each school implemented these strategies. There is insufficient evidence to attribute understanding of these strategies to strength or weaknesses in the collaborative process in each of the schools. It seems likely that understanding can be related to the success of the school in building a strong communication network with home to gain parental involvement in their childrens' education and to reduce conflicts.

It is not possible to define the nature of the interaction between the need for a strong committed leadership in a collaborative setting to ensure power sharing and staff development opportunities and the need for advocates in the community who contribute to the positive image of the school. In the case of both the Friendly Giant and the Teddy Bear School, preaching to the converted appeared essential to keep the school's morale strong and to ensure public recognition of their contribution to their community.

In the Star School, the perceived lack of leadership in protecting the original vision of collaboration and the lack of advocates with influence in the community contributed to many staff members becoming disillusioned and requesting either a transfer or a leave from this school. Although the principal who chose the staff and initiated the multi-graded program was a committed spokesperson for the program, opposition from parents (who seemed to be frightened by the unfamiliar aspects of the team approach and ungraded classrooms) was a serious impediment to evolution of the model.

When individuals feel they face an untenable situation and haven't the power to change it, fear and frustration result, as evidenced by the comments of staff and parents in the last chapter. The incomplete internal support network at the Star School appeared to place the students and school staff in a defensive posture with little hope for relief unless leadership is forthcoming in this area from administration or parent groups. The caring atmosphere witnessed in the classes observed may have to spread out to the community, before the positive image that powers personal and professional growth may emerge.

Future Frustration or a Time of Opportunity?

The educational climate in this province is characterized by increasing distrust among parents and media of the ability of schools to prepare students for the twenty-first century. The increase in home schooling, the deficit reduction motivated transformation of many public schools to charter school status, increasing class sizes with fewer teachers, and the recognition by parents in affluent Boards that they need to do exceptional fund raising if they wish their children to continue to receive the quality of education they expect, were often discussed by participants in this research. That the present policies and cutbacks in education lay out a pathway for two-tier education based on the socio-economic status of the citizens was a common belief. As a result of this outlook, many parents may feel compelled to seek involvement in their schools, providing the opportunity for their schools to engage them in creating a collaborative school.

Those with resources will be able to access private institutions, fund the latest multimedia information systems or afford expensive options provided on a cost-recovery basis in public schools. Schools funded in this manner can expect parents to have a great deal to say about programming and site-based management as they strive to bring their students into contact with experts and technology from anywhere in the world. For example, parents in Airdrie, Alberta are selling lottery tickets on a $212,000 dream home to fund sports and fine arts at George McKenzie High School in response to Alberta Education's funding reductions (Canadian Broadcasting Corporation newscast, Sept.9, 1994). Such financial support for local schools cannot be expected in less affluent communities.

This dissertation suggests that those with fewer financial or educational resources are less likely to engage meaningfully in increasingly diverse educational services and that they will remain clients of the system. Parents and students observed without ownership in their educational process failed to flourish in the schools. Although this research focused on the practices and impacts of schools attempting to build a community of collaborating adults and educational professionals, it became clear that the economic climate and educational resources of the parents had a distinct relationship to their involvement and commitment to the school community.

Parents identified as uninvolved in their schools knew less about their childrens' educational experience, did less to monitor quality or completion of student work and attendence, and were less likely to have a satisfactory relationship with school staff. Their lack of involvement was considered by involved parents and school staff to jeopardize the achievement of their children and reduce the responsibility, expertise and efficacy of the school.

The collaborative schools are in the process of becaming a community for learners rather than a work site producing a homogeneous product for its clients. Quality work reflecting the individuality of the learner was routine in all three school studied. The collaborative process appeared to engage learners of diverse backgrounds and abilities, providing them with increased autonomy and trust in their abilities to access and analyze information.

Support for each other by staff and parents resulted in innovative programming, imaginative extra-curricular activities and enthusiasm for the mutual efforts of the school. Building on talents of all members provided rich possibilities for educational programs in these schools, not restricted primarily by the economic fortunes of the province. Perceptions from the collaborative schools suggest that flexibility and teamwork in developing curriculum, in providing staff and parent training, and in building strong ties with students and families may offer an effective vehicle for making education an increasingly successful experience for all participants, despite of the present negative climate for education.

A Tribute To Vygotsky

Throughout this dissertation I have not cited Vygotsky on each and every ocasion there was some reference to the dynamics between social (whether ideological or substantive) activity and individual (whether overt or covert) activity. But it was, I hope, clear to the reader that assisted performance owes to the Moscow Master. I would like to think that he would have said 'this is a way to resolve many of the outstanding problems in education and society'.

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Appendix A - Letter of Introduction

After 18 rewarding years of teaching Biology and other high school sciences at Alberta College, I returned to the University of Alberta to prepare for a Master's research project. I investigated the impact of discourse and interactions within science classes upon girls. Language Powering Science: Talk About Gender Differences (Ryan, 1992) describes a number of negative effects found upon girls' interest/participation in science and upon their self concept, in two rural science classrooms. This research has since been verified by a Canada-wide study of girls' participation and achievement in science (Haggerty, 1992).

Teaching and research experience led me to believe that the issue of alienation of students goes beyond gender oppression. Many students are struggling due to their problems with English as a foreign language or disparities created by differences in class or cultural heritage.

A deep affection and concern for students and teachers has drawn me to investigate school reforms which attempt to alleviate many of these problems for marginalized students and over extended teachers.

The intent of this research is to observe the impact and evolution of strategies and relationships in schools and their supporting community that adopt a collaborative approach to education. Research describing classroom studies, dropout rates, teacher health and satisfaction, school effectiveness and school reform processes have been carefully analyzed in preparation for this research. Pressures for change (economic, socio-political and moral) and current evaluations of Alberta schools' academic achievement are indicators of need for school reform. Evidence from early childhood, elementary, junior and senior high studies support a shift in paradigm in favour of collaborative education. A collaborative model is both practically and philosophically framed.

This project will chronicle evolving relationships between individuals who are stakeholders in the school. Interactions between students and teachers in selected science classes in an elementary, junior high and senior high school, their counsellors and administrators will be reported within the context of their relationships with parents and community. The science classroom setting was chosen to benefit from the researcher's long teaching and research experience.

Both parents and community members who are visible and active in the school and those who appear to have no involvement will be interviewed. The interview data will describe the nature of parents' and community members' expectations, their relationships with other stakeholders, and their perceptions of school effectiveness and value of the collaborative approach.

Discourse and interactions between students and other stakeholders will be recorded from daily participant observation field notes and classroom videotapes. Contextual limitations or idiosyncrasies that impact on students' learning and perceptions and evaluations of other stakeholders will be discovered. Extending from initial contacts with schools and interviews with stakeholders at the beginning of the school term, the study will intensify through an in-school observation phase, followed by reflective interviews with the same stakeholders, gathering their perceptions of the collaborative process, its educational outcomes and suggestions for their school's future. School culture and social organization represented by daily exchanges will be enriched by observations of staff relationships at school meetings and social gatherings, if permitted.

Appendix B - Permission Letters to Parents and Students

September 22, 1993

Dear Parent/Guardian:

We would like to request permission for your child to participate in a research project at school. This project is being conducted by Mrs. Heather Ryan, Department of Educational Psychology, University of Alberta, supervised by Dr. Bruce Bain.

Heather is the product of a very enjoyable and satisfying education in a rural village in northern Alberta, with subsequent university studies and teaching in Science. After 18 rewarding years of teaching Biology and other high school sciences at Alberta College, she returned to the University of Alberta and subsequently completed a Master's degree in Education in 1992. This research project will be part of her doctoral program in Education.

Teaching and research experience brought recognition that many students are struggling due to their problems with English as a foreign language or disparities created by differences in class or cultural heritage. Affection and concern for students and teachers has induced this research to investigate school reforms which attempt to alleviate many of these problems for marginalized students and over extended teachers.

The intent of this research is to observe the impact and evolution of strategies and relationships in schools and their supporting community that adopt a collaborative approach to education. Hopefully some light will be shed on the nature of language and other forms of interaction in science classrooms and how the relationships, attendence, and achievement of students are affected by the school's implementation of a collaborative model of education.

We are concerned that during the past twelve years, provincial and national studies have shown that Canadian science education must change if our students are to meet the challenges of the next century. From her years as a high school science teacher, Heather believes there is much to be learned from the interests and knowledge expressed by the dialogue of students, school staff, and parents.

This study will involve observations in the classroom, verified by videotaping. Group interactions and teacher-lead discussions will be analyzed according to well established research coding standards. Interviews will be requested with parents to provide their insights about the collaborative model, their expectations, and observations about their childrens' achievements and school environment. The observation and videotaping will require about 28 days of classroom participation, followed by a one month period allowing reflective interviews.

The anonymity of students and teachers in the study will be assured by the use of substitute names in all documents. The videotapes will be destroyed after the project is complete.

Students and teachers will have the right to withdraw from the study at any time. This study will in no way deter from academic performance on the part of participants. This study can not be a success without your willing cooperation and support. If you have any questions,regarding this research, please do not hesitate to call Dr. John Mitchell at the University of Alberta or Heather at home in the evenings at 662-2442. Thanks for your cooperation and support.

Heather Ryan____________________________

Parent Signature, granting
permission.____

September, 1993

Dear Student:

We would like to request your participation in a research project at school. This project is being conducted by Mrs. Heather Ryan, Department of Educational Psychology, University of Alberta, supervised by Dr. Bruce Bain.

The intent of this research is to observe the impact and evolution of strategies and relationships in schools and their supporting community that adopt a collaborative approach to education. Hopefully some light will be shed on the nature of language and other forms of interaction in science classrooms and how the relationships, perceptions, attendence, and achievement of students are affected by the school's implementation of a collaborative model of education.

Heather is the product of an enjoyable and satisfying education in a rural village in northern Alberta, with subsequent university studies and teaching in Science. After 18 rewarding years of teaching Biology and other high school sciences at Alberta College, she returned to the University of Alberta and subsequently completed a Master's degree in Education in 1992. This research project will be part of her doctoral program in Education.

Teaching and research experience brought recognition that many students are struggling due to their problems with English as a foreign language or disparities created by differences in class or cultural heritage. A deep affection and concern for students and teachers has induced this study of school reforms which attempt to alleviate many of these problems for marginalized students and over extended teachers.

We are concerned that during the past twelve years, provincial and national studies have shown that Canadian science education must change if our students are to meet the challenges of the next century. From her years as a high school science teacher, Heather believes there is much to be learned from the interests and knowledge expressed by the dialogue of students.

This study will involve observations in the classroom, verified by videotaping. Group interactions and discussions will be analyzed according to well established research coding standards. The observation and videotaping will require about 25 days of classroom participation, followed by a one month period allowing reflective interviews.

The anonymity of the school, students and teachers in the study will be assured by the use of substitute names in all documents. The videotapes will be destroyed after the project is complete.

All participants will have the right to withdraw from the study at any time, without prejudice. This study will in no way deter from academic performance on the part of participants. This study can not be a success without your willing cooperation and support. If you have any questions,regarding this research, please do not hesitate to call Dr. Jojn Mitchell at the University of Alberta or Heather at home in the evenings at 662-2442. Thanks for your cooperation and support.

Heather Ryan____________________________

Student Signature, granting
permission.____

Appendix C - Classroom Verbal Behaviour Inventory

Class date:

5 minute Time Segments Analyzed:

1)

2)

Behaviour:# of Occurences (If by teacher, is entered as a T, boy as B; or girl as G).

1) Assumption of responsibility for mistake or failure.

2) Assumption of responsibility for success.

3) Praise given.

4) Criticism given.

5) Correcting other's answers or behaviour.

6) Advice or direction given to others.

7) Questions asked of individuals rather than whole class.

8) Challenging questions asked.

9) Talking about science as important to good career or lifestyle.

10) Participate or encourage peer group learning or joint problem solving.

11) Encouragement for out of class activities related to science.

12) Relate science curriculum to everyday life/social issues.

APPENDIX D

COLLABORATIVE EDUCATION INTERVIEW #1

Questions directed to all participants.

1. What indications of collaboration (or working together) have you seen in your school? Consider parent involvement, staff working together, or with parents and community, as well as students working together.

2. What communication concerning school do you receive?

   ex.
   From students, the teacher or administration, and other parents.

3. What impact do you see this collaborative effort having on all participants?

   ex.
   Your child, the teacher, principal and other staff, parents, and community.

4. What advice or suggestions would you like to make to this school or the Board regarding this collaborative model?

Contact: Heather Ryan
Phone: 662-2442

APPENDIX E

INTERVIEW #2 QUESTIONS

Questions Asked of the Cooperating Teacher and the Administration

1. What about staff meetings and professional development days? When do they occur? Who managed them? What is the turnout and support for them?
2. What are the extracurricular expectations and responsibilities for staff and administration in this school? Specifically for the cooperating teacher: What is the experience and training that you have? How do you balance your professional and private lives?

Questions Asked of Parents and All Staff Members

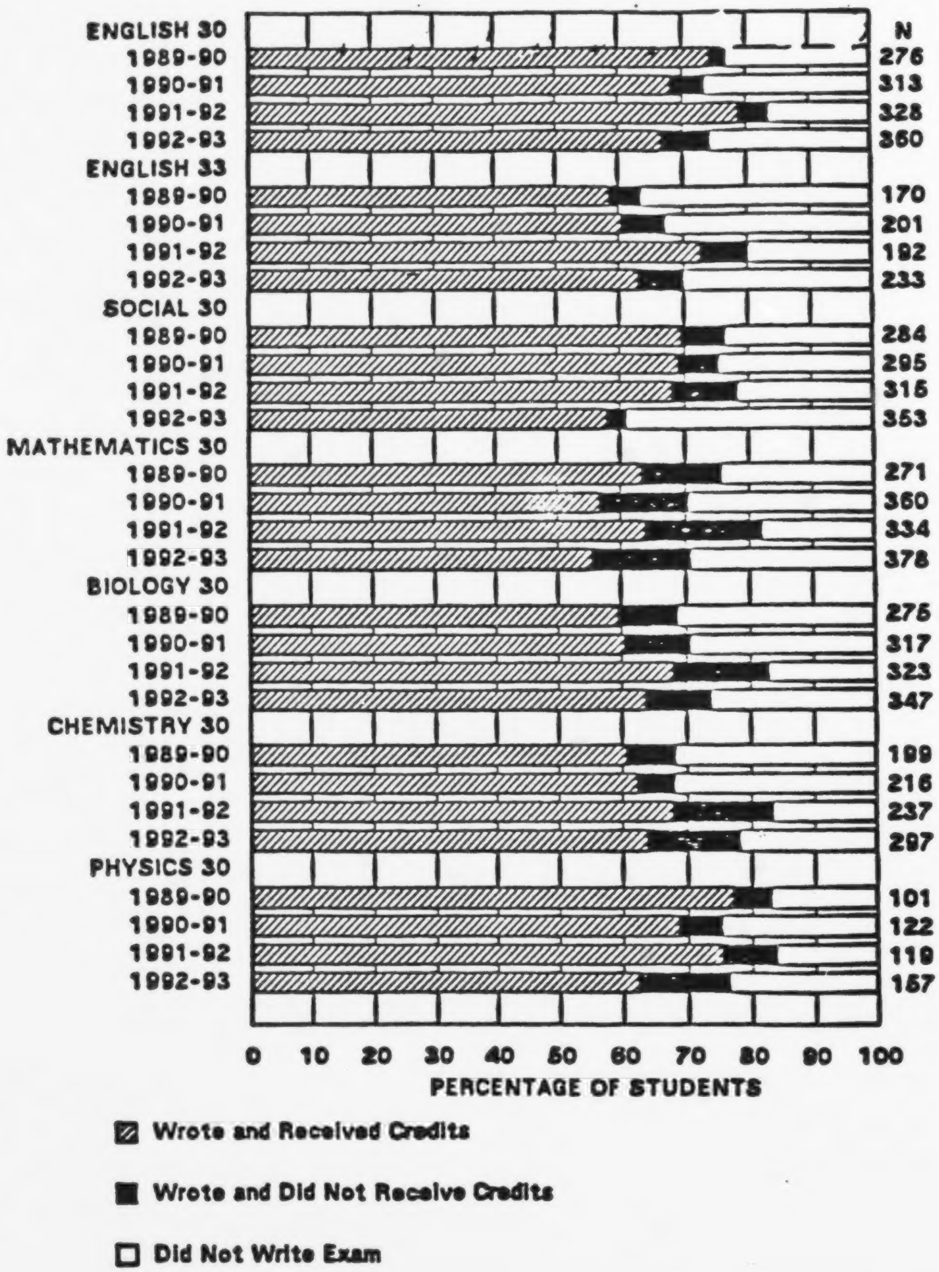
3. Are you satisfied with your input and access to the decision-making process in this school?

Questions Asked of Administration and School Staff

4. Do you consider your administration and school staff tolerant of those who do not join the team or take advantage of the collaborative resources offered?

Appendix F - Students Attempting/Succeeding on Diploma Exams

1989-90 TO 1992-93



N = NUMBER OF STUDENTS ENROLLED ON SEPTEMBER 30 FOR SEMESTER 1 AND 10 MONTH COURSES AND FEBRUARY 28 FOR SEMESTER 2 COURSES.

SENIOR HIGH SCHOOL DIPLOMA COURSE COMPLETION REPORT
-- BY SCHOOL
SEMESTER 1 1993

	A SEPT 30 ENROL-MENTS	B STILL IN EPS JAN 31	C WROTE EXAM	% OF A	PASSED DIPLOMA EXAM	% OF C	% OF A	RECVD CREDITS	% OF C	% OF A
ENGLISH 30	200	190	169	84.5	129	76.3	64.5	142	84.02	71.0
ENGLISH 33	119	114	103	86.5	68	66.02	57.1	72	69.9	60.5
SOCIAL STUDIES 30	165	153	119	72.12	90	75.6	54.5	104	87.3	63.03
MATH 30	209	200	184	88.04	115	62.5	55.02	119	64.6	56.9
BIOLOGY 30	134	124	116	86.5	84	72.4	62.6	91	78.4	67.9
CHEMISTRY 30	120	115	97	80.8	62	63.9	51.6	84	86.6	70.0
PHYSICS 30	64	63	54	84.3	39	72.2	60.9	44	81.4	68.75
TOTALS	1011	959	842	83.28	587	69.7	58.06	656	77.9	64.89

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